THE IMPACTS OF FOREIGN INVESTMENT

IN

PEARL RIVER DELTA

BY

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Abstract

Utilization of direct foreign investment is one of the most important content in the China's new open door policy. Up to now, most investment usually take the form of either processing/assembling business or "three types of foreign-funded ventures" (i.e. joint ventures, contractual joint ventures and wholly foreign-owned ventures). In the light of experience of Dongguan and Guangzhou Economic and Technology Development District (GETDD) in the Pearl River Delta, different impacts of both processing/assembling business and "foreign-funded ventures" are explored.

Processing/assembling business are seen to have significant direct effects on : 1) income, foreign exchange and employment generation, and 2) relaxation of capital constraint. However, the effectiveness of technology transfer and the introduction of advanced one are limited because of 1) low qualities of employees, 2) lack of research and development effort, 3) low profit margin resulting in insufficient accumulation of capital. Linkage effects, no matter forward or backward ones, are very limited due to the nature of this business, although some indirect income and employment generation are clearly related to the booming processing/assembling business.

Demonstration effects (due to foreign involvement in internal management) are sometimes observed though the nature of processing/assembling activities are not conducive to such effects. On the other hand, the transfer effects are rarely found as the mobility of senior staff is very low.

For "foreign-funded ventures", the short history of GETDD reveals that they have similar direct impacts as processing/assembling business. Their direct effects on employment generation and exports earning are limited though there are some exceptions. Even though the GETDD is mainly established for introduction of advanced technologies, it only succeeds in attracting a small number (about 4 ventures) of advanced technology. The main factors related to the ineffectivness of technology transfer (especially advanced ones) are : 1) emphasis of local partners at exhausting short-term opportunities, 2) undevoted research and development effort, 3) low quality of employees.

Although backward linkages are limited, forward linkages are observed because "foreign-funded ventures" are allowed a share of the domestic market. However, this may be undesirable as such investment can lead to immiserization. Demonstration and transfer effects (though difficult to measure) are also invaluable to China as they are commonly found in joint ventures.

Up to now, their impacts, especially those in technology transfer and foreign exchange earning, are below the Chinese expectation. The future of direct foreign investment is not easily predicted because 1) the pace of changes in China is fast and 2) this study is not assumed to be representative.

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Needless to say, any errors remaining in the thesis are the responsibility of mine.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter I

Introduction

1.1 Background

Since the third Plenary Session of the eleventh Central Committee of the Chinese Communist Party (CCP) in 1978, the People's Republic of China (to be referred as China or Mainland China in the rest) has entered into a new era, in which economic development was given the first priority among all its national objectives. At this time, the economic base of China was damaged by frequent power struggles in the CCP over a long time (the 10-year Cultural Revolution). Moreover, a substantial proportion of technologies and know-how in her industrial productions lagged behind those in developed countries for more than twenty years. It was clear that the traditional self-reliance (自力更生) policy advocated by Chairman Mao Zedong could not meet all the demands for her economic reconstruction and China finds it difficult to finance all the projects required in its new economic take-off. Therefore, utilization of foreign resources was the only alternative.

From 1979, Deng Xiao-ping resumed his supreme control of the CCP and advocated a more realistic approach to the Western powers. The drastic improvement in relationship between China and the West, particularly the establishment of the formal diplomatic relationship between

China and United States in 1979, provided her a very great opportunity to utilize capital, technology and management from foreign countries. China began to emphasize her economic relations and co-operation with the West and stress the importance of foreign participations in economic affairs in achieving the Four-Modernization goal.

Although the Communist China had different experiences in economic cooperation with foreign countries, particularly the Soviet Union and those of Warsaw Bloc, from 50's to 70's, the novelty of the new open door policy of 1979 should be noted in the following aspects :

1) The opening is worldwide and hence China has a chance to interact with all advanced countries of the West.

2) Previous practices emphasized the absorption of the embodied (or documented) technology by whole-plant imports whereas the importance of direct foreign investment was neglected. The allowance of direct foreign investment since 1979 provides chances of close interactions with foreigners, which will help Chinese participants to acquire both embodied and disembodied technology (e.g. internal management or marketing strategy) during their cooperation. Moreover, absorption and diffusion of technology are expected to be more effective in the new open door policy when the direct investment is allowed.

In July 1979, the State Council of China has approved two provinces, Guangdong and Fujian, to adopt special policies and flexible measures in their economic

activities. The most important one among these policies was to set up four Special Economic Zones (SEZs) in these two provinces. The Shenzhen SEZ and the Zhuhai SEZ were formally approved in August 1980, followed by the Xiamen SEZ and the Shantou SEZ in October 1980. These zones are more than export processing zones set up by many other developing countries in that the Chinese SEZs are emphasized as testing grounds for new economic systems and strategies. In short, SEZs are expected to perform four functions :

1) serving the purpose of transferring foreign capital, advanced technology and equipment, and management expertise into China ;
2) serving the purpose of generating foreign exchange earnings from activities in the SEZs ;
3) serving as experimental units in economic structural reform ;
4) serving the purpose of generating job opportunities for the people awaiting employment.

Besides setting up SEZs, these two provinces, on the other hand, have allowed some counties to offer special policies and flexible measures to attract foreign investments. The numbers and scales of foreign participations in these counties have been truly remarkable since 1979. Some outstanding examples are Zhongshan (中山), Foshan (佛山), Guangzhou (廣州), Jiangmen (江門), Zhanjiang (湛江), Hainan Island (海南島) Baoan (寶安) and Dongguan (東莞).

Although other provinces were not able to enjoy

the same preferential policies as Guangdong and Fujian, some places such as Beijing, Shanghai and Tianjin, which were historically centres of Sino-Foreign economic activities, began to co-operate with foreign enterprises in developing their economies. However, the number of contracts (except Shanghai) signed was much smaller than that in Guangdong and Fujian[1].

The pace of opening to the outside world was remarkable in 1984. After visiting Shenzhen, Zhuhai and Xiamen in the Spring of 1984, Deng Xiao-ping advocated to speed up his open-door policy and proposed more cities along the coastal region open to foreign businessmen. In May, the CCP Central and the State Council have jointly decided to open fourteen coastal cities and also Hainan Island to further their economic connection with the outside world. These cities include : Dalian (大連), Qinhuangdao (秦皇島), Tianjin (天津), Yantai (烟台), Qingdao (青島), Nantong (南通), Shanghai (上海), Ningbo (寧波), Wenzhou (温州), Fuzhou (福州), Lianyungang (連雲港), Guangzhou (廣州), Beihai, (北海) and Zhanjiang (湛江). The further opening of these cities was mainly in two senses : 1) these cities were granted a greater autonomy in Sino-foreign economic activities and 2) some measures to offer investment

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1 the number of contracts of Sino-foreign joint ventures signed in Guangdong and Fujian was greater than 70%, see Almanac of China's Foreign Economic Relations and Trade, 1984-1987.

incentives in SEZs were allowed in these areas.

As these coastal cities have strong industrial basis and technical capability, they are expected to take a further step in Sino-foreign economic cooperation. According to some officials in the State Council[2], these cities are not only expected to utilize foreign capital for their own economic development but also act as engine to push the development of national economy by transferring advanced technologies and techniques, management experiences and market information to the whole of China.

Associating with the further opening of fourteen coastal cities, most of them were allowed to establish their Economic and Technological Development Zones (經濟技術開發區) in late 1984. According to the provisions of the State Council, economic and technological corporations with foreign participations in these zones are offered preferential measures as that in SEZs. The very advanced technology introduced by these cooperations, which was repeatedly emphasized as the main aim of setting up these zones, are expected to support the development of coastal cities nearby. In these zones, foreign involvements in both reconstruction of old industries and introduction of new ones are emphasized.

In February 1985, the CCP Central and the State Council took a further step in China's open door policy.

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2 see Renminribao, July 13, 1984, p.1.

Villages and cities in three specific regions along the coast are allowed to enjoy preferential policies in developing their Sino-foreign economic cooperation. These regions are known as : 1) Pearl River Delta in Guangdong ; 2) Xiamen-Zhengzhou-Quanzhou in Fujian and 3) Yangtze River Delta in Jiangsu, Zhejiang and Shanghai. These deltas, together with other opening cities along the coast, are shown in Figure 1.

The successive openings of coastal regions have inspired and encouraged other provinces to follow their predecessors. From 1984, nearly all provinces have begun to build up various economic relations with the outside world. Negotiations to promote external trade and attract foreign investment were extensively held between provincial leaders and foreign businessmen elsewhere in China. From 1984 onwards, the foreign involvements in economic activities are nation-wide and the trend for more opening of China to outside seems to be irreversible.

1.2 Different Forms of Utilization of Foreign Capital in China

The opening of China has attracted much attention from foreign businessmen. Usually, foreign capital are utilized in the form of either external loans or direct foreign investment. The comparisons between the pros and cos of external loans and direct foreign investment on developing country have been extensively discussed in the literature of development economics. For simplicity,

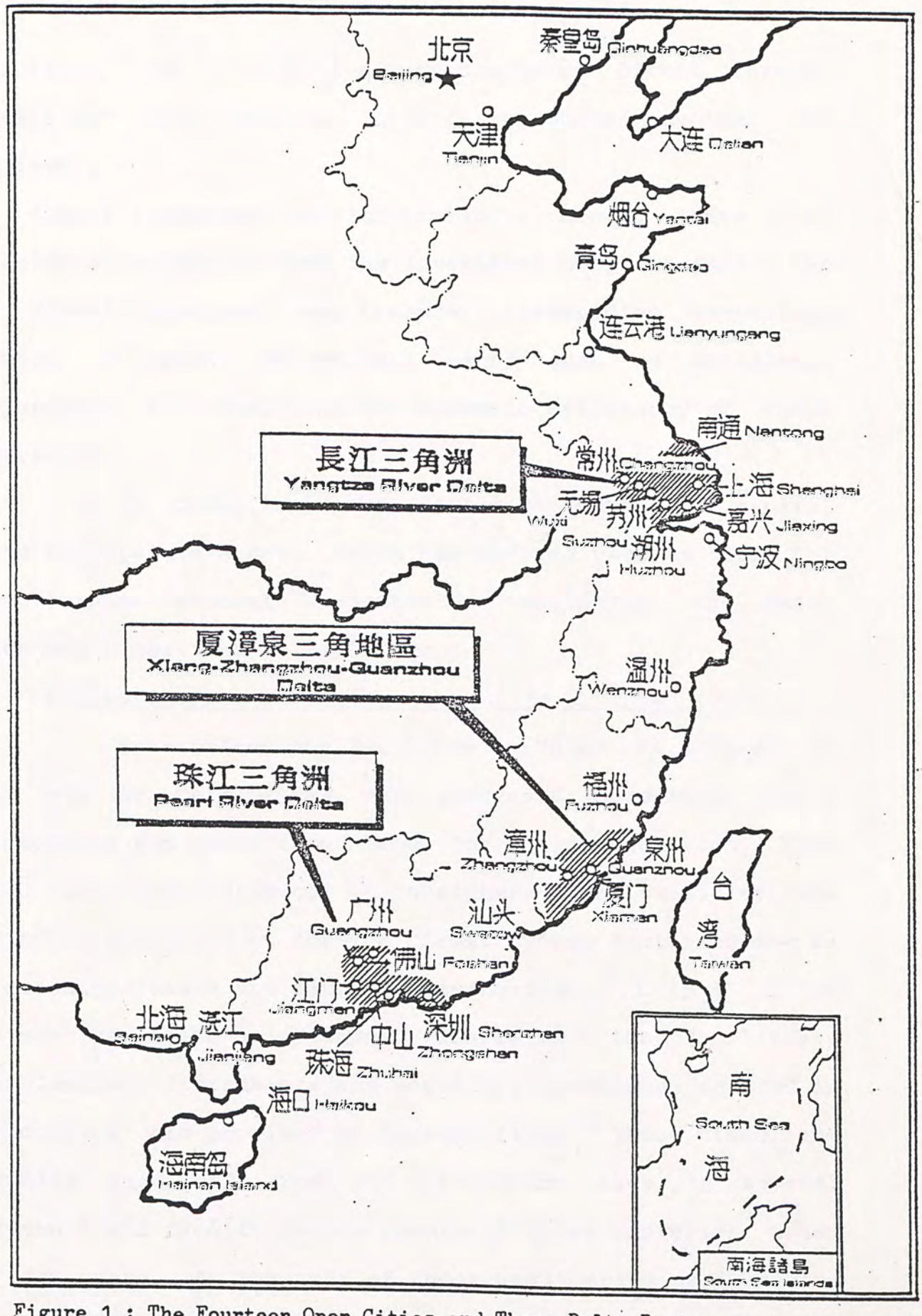

Figure 1 : The Fourteen Open Cities and Three Delta Regions along the coast of China.

therefore, two distinctive advantages of direct foreign investment over external loans in the China's context are noticed :

1) direct investment is risk-sharing ; hence, there is no problem of repayment when the investment projects fail ; and

2) direct investment may transfer disembodied technology (which is absent in external loans) such as management experience for improving the economic efficiency of their operation.

In order to channel different sources of capital into appropriate areas, China has offered various forms of Sino-foreign economic co-operation. Basically, the major ones are classified as follows :

(1) Processing/Assembling Business (加工裝配) :

Enterprises and factories in China are allowed to use all or part of raw and processed materials, spare components and parts from abroad for their production. They send all their products to foreigners with qualities and patterns specified by foreign firms. These factories act as processing bases and earn processing fees (工繳費) in return as their only income. Nearly all the facilities, machineries, instruments and sometimes techniques adopted in production are provided by foreign firms. These items are usually paid off from the processing fees in several payments and finally become assets of these factories after a few years. As the cost of those machineries used in the production process becomes more expensive, more factories

now prefer to hire or lease rather than own them in their production planning.

(2) Compensation Trade (補償貿易) :

Compensation trade is basically a form of international trade based on credit, which does not involve any direct capital tie-up between China and the outside partner in her adsorption of foreign technology and equipments. It can be divided into two types according to the method of payment for imported equipments : "product buy back" and "mutual purchasing". The former involves payment in the form of products manufactured by the imported equipments, while the latter by other products. According to the formula of "product buy back", which is the more common one in practice, China will import the production equipment and know-how from foreign manufactures or utilize export credit from foreigners to purchase these equipments and know-how. Raw materials may be provided by either domestic or foreign sources, while labor, management and factory buildings are supplied by China. The products manufactured will be shipped back to the supplier of these production equipments. The value-added service (and raw materials where applicable) provided by China will be considered as payment for the imported equipments. The second type of compensation trade, "mutual purchasing", differs only in that the compensation can be made by other products (or known as indirect products). This usually applies to cases of imported equipments (such as equipments for hospitals, hotel, etc) which are used to produce non-tangible products.

(3) Sino-Foreign Joint Ventures (中外合資企業)

With a view to expand international economic cooperation and technological exchange, China has allowed foreign companies, enterprises, other economic entities or individuals to incorporate themselves into joint ventures with Chinese counterparts since 1979. As China is severely short of capital, the proportion of the investment (in the form of cash, capital goods, industrial property rights, etc) contributed by foreign participants is in general not less than 25% of the registered capital. The major decisions of the joint venture is made by the Board of Directors only, in which the Chairman must be appointed by the Chinese participant. General manager and assistant general manager chosen from various parties are responsible for daily management of the joint venture. For the profits, risks and losses of a joint venture, it is to be shared by the parties involved in the venture in proportion to their contributions to the registered capital. Like compensation trade, China wishes to make use of joint-venture projects to absorb foreign capital, technologies, management skills and utilize the marketing network of these international firms to expand her exports. To encourage their establishment, preferential measures on income tax and profit tax are usually offered to foreign participants [3].

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3 see "Guide to China's Foreign Economic Relation and Trade: Investment Special, 1987-1988", Policy Research Department and Foreign Investment Administration, Ministry of Foreign Economic Relations and Trade, China, 1987, p.156.

(4) Sino-Foreign Co-management Enterprise (中外合作企業)

The Sino-foreign co-management enterprise, which is also called contractual joint venture, has an important characteristic of convenience and flexibility. According to the current practices in these enterprises, the Chinese participant provides with the site, premises, equipments and facilities, labor forces, natural resources as well as small amount of capital. Foreign participant, on the other hand, usually provides capital, technologies, equipments and materials. The responsibilities, obligations, rights, composition of investment, distribution of profits and management of the co-management enterprise are decided and stipulated in the contract by both parties. According to the provisions set in the contract, distribution of profits usually takes the form of either products sharing-out or profits sharing-out. Moreover, the management and organization within this type of enterprise are very flexible. It can be either similar to that of Sino-foreign joint ventures or any form that both parties agree.

(5) Wholly Foreign-Owned Enterprise (獨資企業)

As its name suggest, a wholly foreign-owned enterprise is an enterprise with all its capital solely invested by foreign participants. According to the provisions of "Law of the People's Republic of China Governing Wholly Foreign-Owned Enterprises" adopted at the Fourth Session of the Sixth National People's Congress on April 12, 1986, "the establishment of a wholly foreign-owned

enterprise must be beneficial to the development of the Chinese national economy, such enterprises must use advanced technology and equipment, and either all or a large portion of its products must be for exports". This is the aim and the basic pre-requisite and requirement to establish a wholly foreign-owned enterprise. Moreover, the Chinese government in this law reaffirms that the foreign investment, the profits earned and other lawful rights of foreign investors are under protection. These wholly foreign-owned enterprises should be an independent economic entities and are entitled to fully enjoy the right to make their own decisions in operation and management.

(6) Sino-Foreign Joint Exploration (中外合作開發)

This form mainly applies in the exploration of oil reserves along the Chinese coastal lines. Its main objective is to utilize foreign technologies in oil reserves in South China Sea and hence reduce the risks incurred. In current practice, the exploration is divided into two stages. The first one is for detection, in which the required technologies, equipments, and therefore the risks are undertaken by foreign participants. The second stage is for commercial production. After deducting the operating cost, the Chinese party enjoys a fixed amount of revenue while the remainder is used to pay for the investment and interest costs of both parties and also rewards for foreign enterprises.

(7) Loans

Although the Chinese authority is very cautious

about utilization of foreign loans, the importance of these resources in her economic re-construction should not be overlooked. As a developing country, China enjoys favourable terms in getting loans from international organizations such as World Bank, International Monetary Fund, International Agriculture Development Fund, and Asian Development Bank, etc. These long term preferential loans are used mainly in the following areas : energy development, transportation and communications, material industries, agriculture, scientific research, culture, education and hygiene. In fact, all these projects are crucial in China's development. On the other hand, loans from commercial banks with tighter conditions are utilized. However, the application procedures for utilization of commercial loans are cumbersome (though some provinces and enterprises are allowed to have autonomy to raise loans in 1987). Approvals are usually needed from many bureaucracies, like the provincial government, the People's Bank of China and the State General Administration of Foreign Exchange Control, which therefore inhibits a more extensive utilization of external loans in China. Lastly, although it is still not common in China, international bonds have been issued for foreigners. The introduction of bonds is aimed at more efficient utilization of foreign capital. However, as the authority of issuing bonds is assigned to only a few bodies such as China International Trust and Investment Corporation (CITIC in short), utilization of loans through this channel is limited.

(8) Leasing (租賃)

CITIC, the Trust Department of Bank of China, and some provincial Trust and Investment Corporations have engaged in leasing business in China since 1981. After 1979, they have set up extensive links with foreign corporations. Through such links, they lease out machineries and technologies from foreign firms to many old enterprises at home. The leasing business in fact can help to ease the urgent needs of these old enterprises, which demand technical transformation but lack foreign exchange. By now, leasing is a significant channel in absorption of foreign capital. For example, by the end of May 1987, CITIC has undertaken leasing business for more than 1500 projects with the total amount involved reaching 1.2 billion U.S. dollars[4].

The Chinese classification gives the definition of direct foreign investment much wider than that used generally. Processing/assembling business, compensation trade and leasing, which are recorded as trade in many countries, are reported as part of direct foreign investment. In Chinese practice, the first two forms, i.e. processing/assembling buasiness and compensation trade, are usually grouped together for discussion purpose and treated similarly in its open-door policy. Also, the next three

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4 see "Guide to China's Foreign Economic Relation and Trade: Investment Special, 1987-1988", Policy Research Department and Foreign Investment Administration, Ministry of Foreign Economic Relations and Trade, China, 1987, p.185.

items, i.e. Sino-foreign joint ventures (referred as joint venture later), Sino-foreign co-management enterprise (referred as contractual joint venture later) and wholly foreign-owned enterprise, are named together as the three types of "foreign-funded ventures" (三資企業).

1.3 Objective of the study

As a typical Third-World country, China has faced the foreign exchange constraint in economic development since her opening. Foreign exchange is scarce in China as her export earning power is relatively low. Moreover, as some socialist economists point out[5], socialist countries always find themselves short of sufficient capital to invest for their economic development in spite of their comparatively high saving ratio. In other words, the familiar "two-gap" analysis (savings gap and foreign exchange gap) in the development literature still applies to the present situation in China.

Up to now, the different channels mentioned in Section 1.2 have played significant roles in providing foreign resources to match the investment opportunities in the coastal region. The trend of utilization of these channels in the past years is shown in Table 1. From Table 1, we can see that there is a rapid growth of external loans in the period 1985-86. However, further utilization of

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5 see J. Kornai, "Economics of Shortage : Volumes A snd B", North-Holland Publishing Company, Amsterdam, 1980.

Table 1

Actual Utilized Foreign Capital (1979-86) (in million US $)

Year	Direct Foreign Investment							Loans	Total Foreign Capital
	Joint Exploration	Compensation Trade	Three Types of Foreign-funded Ventures				Others #	Total		
			Joint Venture	Contractual Joint Venture	Wholly Foreign-Owned Venture	Subtotal				
79-81	318.3	282.2	65.3	353.3	1.0	419.6	100.5	1120.6	9090.6	10211.2
82	178.5	122.4	34.3	177.8	39.3	251.4	97.0	649.3	1782.9	2432.2
83	291.5	197.3	73.6	227.4	42.8	343.7	83.5	916.0	1064.6	1980.6
84	522.9	98.5	254.7	465.0	14.9	734.7	62.8	1418.9	1285.6	2704.5
85	480.6	168.6	579.9	585.0	13.0	1177.9	129.1	1956.2	2505.9	4462.1
86	260.3	191.1	804.5	793.8	16.3	1614.6	187.7	2243.7	5014.6	7258.3

Others include items of processing/assembling business and leasing

Source : Almanac of China's Foreign Economics Relations and Trade, 1984 p.1092, p.1095; 1985 p.1066; 1986 p.1212; 1987 p.547.

foreign resources through external loans and leasing will face more limitations (because loans, especially commercial loans, are growing faster than direct foreign investment in recent years whereas the slow improvement of the foreign exchange earning power in China may fall short of the requirement to pay the interest). In fact, the Chinese economists have warned that the burdens of foreign debts will reach a dangerous level by early 1990s[6]. Moreover, in the China's context, utilization of foreign resources in the form of direct foreign investment has some distinctive advantages over external loans (discussed in the first paragraph of Section 1.2). Therefore, it is strongly emphasized by the Chinese officials that foreign direct investment, instead of external loans, should be given strategic roles in the foreseeable future. Yet, as shown in Table 1, different forms of foreign investments (i.e. processing/assembling business, compensation trade, three types of "foreign-funded ventures" and Sino-foreign joint exploration) have been widely used from 1979 onwards.

It is clear that the impacts, implications as well as the problems arising from the introduction of these direct foreign investments in both static and dynamic contexts are important and interesting questions in the development process. Moreover, it is crucial for China to understand whether she gains or loses after her new opening

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[6] see Wen Wei Po, Hong Kong, February 28, 1988, p.3.

and also how she can efficiently utilize direct foreign investment in future.

The motivation of this thesis is to respond to the mentioned questions. Through a careful and detailed study of the changes in two regions of the Pearl River Delta in Guangdong, this thesis tries to investigate and assess the impacts, implications and also the problems due to the introduction of direct foreign investments.

Theoretically speaking, the effects of direct foreign investment on promoting national economic development can be considered in three different ways[7] :

(1) Direct effect : Foreign direct investments directly provide foreign exchanges and usually supply raw materials, production technologies, management techniques and information about overseas markets. The investments increase national production capacities and hence provide employment opportunities and sources of government revenue.

(2) Linkage effect : Enterprises with foreign participation can rarely be isolated from other local factories or industries. They always have both forward linkages (concerning the sales of products from them) and backward linkages (concerning the supplies of factor inputs for their

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7 see Woo Tun-oy and Tsang Shu-ki, "International Economic Environment and the Chinese Policies in the Absorption of Foreign Capital", in Min Jian-shu et. al. (eds), "Investment Climate in China : Problems and Prospects", Feasibility Study Unit, Research Centre for Economic, Technological and Social Development, State Council, PRC and Beijing-Hongkong Academic Exchange Centre, 1987, p.171-172.

production) with local Chinese factories. These linkage effects will usually provide opportunities for expansion of local enterprises, which may hence improve their economic efficiency when resources are idle. Besides, horizontal linkage effect will be observed if efficiency of local firms is improved when more foreign investment press for upgrading public utilities, communications and transportations. It should be noted that these linkage effects will lead to increased efficiency only if there exist idle resources, bottlenecks and unrealized economies of scales.

(3) Transfer and demonstration effect : The operations and daily management of foreign-participated enterprises provide example or reference for comparison with local enterprises. These demonstrating effects are expected to induce pressures for local enterprises to follow and thus improve their efficiency. On the other hand, through their participation in foreign investment, Chinese managers are able to transfer their newly-learnt management experiences to other factories or industries.

In this paper, the performances of foreign investments in two chosen places, their forward and backward linkages, as well as their demonstrating effects, are carefully examined in order to throw light on their impacts in Chinese industrialization process.

Among all forms in foreign direct investment, this study concentrates at investigation of the most common ones : (i) processing/assembling business and (ii) activities of

the three types of "foreign-funded ventures" (referred as "foreign-funded ventures later). Compensation trade is not considered seperately (although some of its figures are included in the processing/assembling business of Dongguan) because i) it is only a small proportion by now in Dongguan and also in the whole country, and ii) it is unlikely to have a great development in the foreseeable future. Moreover, exploration is excluded as this form deals mainly with oil exploration in South China Sea and is not a common practice in other open zones.

The regions chosen for empirical work in this study are Guangzhou Economic and Technological Development District (廣州經濟技術開發區) and Dongguan City (東莞市) in the Pearl River Delta. To draw general conclusions from these two regions are difficult and also risky because (i) regional differences (such as policies, leadership, qualities of labors, transportation network, etc.) exist extensively in China, even in a comparatively small region like the Pearl River Delta of Guangdong and (ii) foreign participations in these regions represent only a significant but not a dominant proportion of foreign direct investment in China. It is well-known that foreign investments are more prominent in SEZs, especially in Shenzhen SEZ. However, the choice of regions for empirical work in this thesis is still somewhat meaningful. Dongguan City has been the top leader in absorption of foreign investment in processing/assembling business and performed outstandingly in foreign exchange earnings among all

counties in China for last few years. Last year, Dongguan received a total of $U.S. 107 million as processing fees for its processing/assembling activities. Guangzhou Economic and Technological Development District (GETDD) is established mainly for absorption of high technologies. Through activities of the "foreign-funded ventures" in this zone, high technologies are expected to be absorbed, serving the purpose of upgrading those obsolete machineries and out-dated industries in the nearby opening city, Guangzhou.

Due to limited time and resources, it is hoped that a detail and concentrated study of two regions in this thesis would help us to understand and assess both direct and indirect effects of utilization of foreign direct investments in processing/assembling business and activities of the "foreign-funded ventures" in China in the past few years.

1.4 Plan of The Study

The information and statistics presented in the following chapters are mainly collected in three channels : 1) newspapers and publications from both China and Hong Kong ; 2) field visits to Dongguan and GETDD ; and 3) questionnaires distributed to enterprises in these two regions.

Through the assistance of the Society of Researchers on Guangdong Economic Special District, eight field visits were arranged to Guanzheng (莞城) and

Shilong Zhen (石龍鎮) of Dongguan and also GETDD from October 1987 to April 1988. These visits provide me opportunities to expose myself to discussions with local cadres responsible for foreign investment, leaders in local research centres and superintendents of factories involving in processing/assembling activities and the "foreign-funded ventures".

Two sets of questionnaires, one for processing/ assembling enterprises in Dongguan and the other for the "foreign-funded ventures" in both GETDD and Dongguan, are designed to investigate their characteristics. Copies of them are found in Appendix A and B. The questionnaires were posted twice from January to March 1988 to a total of sixty "foreign-funded ventures" in GETDD and of over 110 factories in Dongguan. Though there were merely 44 return (10 from GETDD and 34 from Dongguan), the return rate is comparable to similar surveys, as this method for collecting information is quite new to Chinese managers. The sample collected in these returned-questionnaires is by no means representative. However, it is believed that the information given in their replies, together with my field visits and also others' field works in Dongguan and the Pearl River Delta, will present a rather comprehensive picture for our understanding.

There are altogether six chapters in this thesis. Chapter II gives a quick glimpse on the changes brought about in China after its adoption of open door policy. It reviews its changes in policy and reforms in law and

institution, with regards to utilization of foreign capital since 1978. A summary of foreign economic activities, including the total number and amount of foreign investment, type of investment and countries of origin, etc., is presented to give us a grasp of their performances in the past few years. In Chapter III, details of foreign participants in processing/assembling activities of Dongguan are mentioned. The results obtained in the field work and the returned questionnaires are also reviewed to highlight the impacts of processing/assembling activities in Dongguan. Chapter IV, on the other hand, surveys the activities of the "foreign-funded ventures" in GETDD. Based on my survey and other researches in local research institution, it tries to investigate the performances and impacts of the "foreign-funded ventures" in GETDZ. In Chapter V, the problems associated with utilization of foreign capital, in the form of processing/assembling business and the "foreign-funded ventures" are explored in the light of experiences in Dongguan and GETDD. Some problems, which may not be disclosed in the above surveys but mentioned in other areas, are also discussed for the sake of completeness. Various proposals to further improve the utilization of foreign investments are examined. The last chapter, the conclusive one, summarizes the major findings of the whole study and examines the role of foreign participation in China's new economic take-off.

Chapter II

Review of Utilization of Foreign Capital since 1978

2.1 Characteristics of Foreign Capital in China

Since 1978, there has been an attractive growth of utilization of foreign capital in China. In fact, the foreign exchange constraint is relaxed a little bit as the contribution of foreign capital in her capital formation becomes important in the recent years. As seen in Table 2, the amount of utilized foreign capital has reached a significant level. Among these foreign capital, loans are the most important source. The dramatic increase in utilization of foreign capital in 1986 is mainly due to a double increase in loan-raising. In spite of the sharp fall in contracted direct investment[1], the growth rate of contracted foreign capital is maintained due to the 2.5 times increase in contracted external loans.

Although there is a sharp drop in contracted direct foreign investment in 1986, the actual utilization

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[1] The sharp drop in contracted foreign direct investment is due to the fact that the investment environment fails to meet the expectation of foreign investors. An expensive operating cost is ofter incurred during negoiation process. Moreover, as the power to approve foreign investment is resumed by the Ministry of Foreign Economic and Trade in 1985, the cumbersome administrative procedures thus further stimulate the withdrawal of foreign investors. For further details, see The Nineties Monthly, Hong Kong, November, 1986, p.26.

Table 2

Actual Utilized Foreign Capital (1979-86) (in million US $)

Year	Direct Foreign Investment				Others	Total	Total Foreign Capital	Current Account Foreign Exchange Earnings
	Three Types of Foreign-funded Ventures							
	Joint Venture	Contractual Joint Venture	Wholly Foreign-Owned Venture	Subtotal				
79-81	65.3	353.3	1.0	419.6 (37.4)	100.5	1120.6 [1.8]	10211.2 {16.5}	61754
82	34.3	177.8	39.3	251.4 (38.7)	97.0	649.3 [2.6]	2432.3 { 9.6}	25408
83	73.6	227.4	42.8	343.7 (37.5)	83.5	916.0 [3.6]	1980.6 { 7.8}	25418
84	254.7	465.0	14.9	734.7 (51.8)	62.8	1418.9 [4.9]	2704.5 { 9.3}	29029
85	579.9	585.0	13.0	1177.9 (60.2)	129.1	1956.2 [6.6]	4462.1 {15.0}	29812
86	804.5	793.8	16.3	1614.6 (72.0)	187.7	2243.7 [7.2]	7258.3 {23.5}	30938

Figures in ( ) are % ratio of three types of foreign-funded ventures in direct foreign investment.
Figures in [ ] and { } are the respective % shares of direct foreign investment and foreign capital in total foreign exchange earnings.

Sources: 1)Almanac of China's Foreign Economics Relations and Trade, 1984, p.1092 and p.1095 ; 1985, p.1066 ; 1986, p.1212 ; 1987, p.547.
2)Jao, Y.C.,'Hong Kong's role in financing China's modernization', in A.J.Youngson (ed),China and Hong Kong : the Economic Nexus, Oxford University Press, Hong Kong, 1983.
3)Sung, Y.W.,'The role of Hong Kong and Macau in China's Export Drvie', Working Paper No.85/11, National Centre for Development Studies, Australian National University, 1985.
4)IMF, International Financial Statistics, Various Issues

figure recorded still increased. The ratio of utilized direct foreign investment to its commodity exports, as an indicator to show the importance of direct foreign investment in China's total receipt of foreign exchange earnings in its current account, has shown a steady increase from 1.8% in early 80's to 7.2% in 1986.

Among the direct foreign investments, joint ventures and contractual joint ventures are the two basic components. In fact, joint venture has become more popular in recent years, especially after frequent advocation by China since 1983. The rapid growth of joint ventures, no matter in contracted value or actual utilized value (seen in Tables 2 & 3), is mainly due to strong promotion of the central government (details are discussed in Section 2.3). The wholly foreign-owned enterprises, on the other hand, has the least importance. It has the least share, about 1% in 1986, among all utilized foreign capital in the "foreign-funded ventures", even though these ventures have grown rapidly over the last few years (the "foreign-funded ventures", as seen in Table 2, has risen from 38% of the utilized foreign direct investment in early eighties to 72% in 1986).

In spite of the dramatic growth of utilized foreign direct investment in recent years, compensation trade remains stagnant. Both the Chinese and foreign parties are very cautious in expanding compensation trade as there are many unreliable factors in practice. The fluctuations in international markets, the uncontrolable qualities in the

Table 3

Pledged Amount of Foreign Capital (in million US $)

Year	Direct Foreign Investment							Loans	Total Foreign Capital
	Joint Exploration	Compensation Trade	Three Types of Foreign-funded Ventures				Others	Total	
			Joint Venture	Contractual Joint Venture	Wholly Foreign-Owned Venture	Subtotal			
79-82	1422.0	729.7	127.1	2727.2	331.9	3186.2 (57.6)	2349.5	5535.7	12521.7	18057.4
83	1000.9	102.0	188.4	502.7	39.5	730.6 (38.1)	1186.3	1916.9	1513.3	3430.2
84	------	161.7	1066.6	1484.0	99.9	2650.5 (92.2)	224.4	2874.9	1916.5	4791.4
85	359.6	260.3	2029.7	3496.2	45.7	5571.6 (88.0)	761.6	6333.2	3534.2	9867.4
86	80.8	313.0	1375.2	1358.1	20.3	2753.6 (82.7)	576.8	3330.4	8406.6	11737.0

Figures in partheses are percentages of Three Types of Foreign-funded Venture in Direct Foreign Investment

Source : Almanac of China's Foreign Economics Relations and Trade, 1984, p.1092 and p.1096 ; 1985, p.1066 ; 1986, p.1215 ; 1987, p.547.

buy-back products, and also the emphasis of the Chinese government on joint ventures, make it less attractive than others.

The foreign investments in the processing/ assembling business in China are not separately reported (except in 1986) but included in the total amount of foreign direct investment. However, as an overwhelming proportion of processing contracts is undertaken in Guangdong Province, figures recorded in Guangdong (Table 4) are representative in understanding these activities. There is a sharp increase in 1984, which is consistent with the trend of total foreign direct investments. However, the number of contracts signed dropped significantly after 1984. Even though the drop in the number of contracts signed is significant, processing/ assembling activities have recorded peaks in both actual utilized amount of foreign capital and processing fees since 1986. Furthermore, it is worth to point out that the average pledged amount of foreign capital per contract tends to increase. This trend seems to indicate that the quality of foreign capital have improved in the past years.

The distribution of foreign capital in different sectors of China's economy are also worthy of investigation. The trends of contracted capital in different sectors are reported in Table 5a and 5b (they are seperately reported as the classification in 1983 and 1984 is different from that in 1985 and 1986). If we disregard the item of exploration of off-shore oil, we can find that the foreign capitals are

Table 4

Processing/Assembling Business in Guangdong Province (1979-87)

Year	Number of Contracts Signed	Pledged Amount of Foreign Capital #	Autual Utilized Amount of Foreign Capital #	Processing Fees #	R *
79	1563	49740	44130	12980	31.82
80	4913	155570	63470	71940	32.32
81	6563	26330	65450	113190	4.01
82	8008	42130	56560	136660	5.26
83	10879	81500	78870	174490	7.49
84	16262	221140	65200	258140	13.60
85	11780	236070	83670	234860	20.04
86	9177	218490	103420	272830	23.81
Jan-July,87	3138	114690	52820	178510	36.55

* R is the pledged amount of foreign capital per contract (in thousand US $ per contract)
\# All figures are in thousand US $

Source : Guangdong Foreign Economics Relations and Trade, 1987, Vol. 4, p.20.

Table 5a

Statement of Agreement (Contract) of China's Utilization of Foreign Capital By Sector (1983-84)

	1983			1984		
	External Loans	Direct Foreign Investment	R	External Loans	Direct Foreign Investment	R
Agriculture & Forestry & Husbandry & Fishing	88.9	17.8	1.99	175.0	78.8	2.74
Coal	205.9	-----	-----	140.0	-----	-----
Petroleum	263.2	-----	-----	100.3	13.3	0.46
Communications	215.6	17.3	1.93	346.0	81.7	2.84
Post & Communications	6.0	42.6	4.76	10.1	2.4	0.08
Machinery	3.5	118.2	13.21	8.1	167.6	5.83
Electron	5.0	21.8	2.44	58.7	64.1	2.23
Light Industry	15.2	41.1	4.59	50.7	116.5	4.05
Foodstuff	-----	38.1	4.26	16.2	120.0	4.17
Textile	3.4	22.0	2.46	7.9	70.0	2.43
Metallurgy	192.5	0.6	0.07	65.6	19.1	0.66
Non-ferrous Metals	2.8	0.2	0.02	-----	7.3	0.25
Chemical Industry	244.6	18.4	2.06	61.1	51.8	1.80
Building & Its Material	2.7	56.7	6.34	40.2	77.8	2.71
Culture & Education & Hygiene	92.9	3.6	0.40	160.4	2.2	0.08
Tourism	-----	94.9	10.61	1.0	939.5	32.68
Commerce	0.5	39.3	4.39	-----	110.0	3.83
Other	169.9	362.5	40.51	479.1	953.0	33.15

Notes :
1) Figures presented above exclude US$ 1022.0 million of direct foreign investment on Offshore Oil Development and also US$ 196.2 million of external loan on Electric Power
2) R = (direct foreign investment)/(total direct foreign investment in the same year), in %
3) All figures (except R) are in million US $.

Source : Almanac of China's Foeign Economic Relations & Trade, 1984, p.1110-1 ; 1985, p.1074-5.

Table 5b

Statement of Agreement (Contract) of China's Utilization of Foreign Capital By Sector (1985-86)

	1985			1986		
	External Loans	Direct Foreign Investment	R	External Loans	Direct Foreign Investment	R
Agriculture & Forestry & Husbandry & Fishing	285.7	126.3	2.00	198.6	104.4	3.13
Industry	999.9	2384.2	37.65	4300.5	1234.6	37.07
Geological & Prospecting	-----	362.1	5.71	-----	-----	-----
Building	74.0	132.5	2.09	-----	52.6	1.58
Communications & Post and Telecommunications	705.2	105.7	1.67	755.2	33.3	1.00
Commerce & Catering	-----	526.5	8.31	-----	100.1	3.01
Real Estate & Public Utilities & Services	-----	2270.6	35.85	-----	1617.3	48.56
Hygiene & Sport & Social Welfare Services	-----	51.5	0.81	-----	16.4	0.49
Education & Culture & Art	147.1	4.3	0.07	126.1	40.7	1.22
Science & Research & General Technical Service	25.3	6.6	0.10	-----	0.2	0.11
Finance & Insurance	-----	63.7	1.01	-----	-----	-----
Others	1297.1	299.8	4.73	3026.2	130.7	3.92
Total	3534.2	6333.2	100.00	8406.7	3330.4	100.00

Notes :
1) R = (direct foreign investment)/(total direct foreign investment in the same year), in %
2) All figures (except R) are in million US $

Source : Almanac of China's Foeign Economic Relations & Trade, 1987, p.555 ; 1986, p.1221.

mainly concentrated in tourism (or real estate), commerce and catering, and light industries (including foodstuff, electronics and textiles, etc). In Chinese terminology, more contracted foreign capital has been attracted to the so-called "non-productive items" (非生產性項目) or tertiary sectors such as tourism (or real estate), commerce and catering, etc. If we compare external loans and direct investment for each sector, we can see that the sources of foreign capital for developing key (or high priority) sectors, such as energy, communication, chemical industries, etc., rely largely on loans, whereas most of the less important sectors are supported by direct investment. In 1986, for example, most of the contracted foreign capital in industry and communication are provided by loans, while the external funds for real estates, commerce and catering, public utilities and services, are entirely come from direct investments. In the period 1979-85, it is estimated that an extremely significant share of the total foreign investments in China was used for building hotels, 48.5% in joint ventures, 50% in contractual joint ventures and 10% in wholly foreign-owned enterprises accordingly[2]. In recent years, the highly unbalanced emphasis in "non-productive" items by the direct foreign investment has attracted attentions of Chinese leaders, who wish to generate more benefits by increasing the proportion of "productive" items (生產性項目) from foreign participations.

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[2] see Journal of Technology Introduction, Shenzhen, Vol.6, 1986, p.4.

The origin of foreign direct investments is usually believed to have an important implication in the assessment of their impacts on technological transfer. From Table 6, we can see that the contracted foreign direct investments are mainly come from Hong Kong and Macau, United States of America, Japan and Singapore. In fact, investments from Hong Kong and Macau are dominant over the past years. From Table 6, it can be seen that more than half of the total contracted amount are come from Hong Kong and Macau (mostly Hong Kong). The importance of these two regions is again revealed by their overwhelming high percentages in the total number of contracts among all foreign direct investments (75.5% in 1983, 86.3% in 1984, 85.6% in 1985 and 77.1% in 1986). The effects of over-concentration of contracted direct investments from Hong Kong and Macau on both technological transfer and foreign exchange earnings will be discussed later in the light of experiences of GETDD and Dongguan.

2.2 Chinese Policies On Foreign Investments since 1979[3]

Since 1978, the central government of China has always run deficits in its account. Due to shortage of

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3 Most of the discussion in this Section are from : Woo Tun-oy and Tsang Shu-ki, "International Economic Environment and the Chinese Policies in the Absorption of Foreign Capital", in Min Jian-shu et. al. (eds), "Investment Climate in China : Problems and Prospects", Feasibility Study Unit, Research Centre for Economic, Technological and Social Development, State Council, PRC and Beijing-Hongkong Academic Exchange Centre, 1987.

Table 6

Countries of Origin of Pledged Foreign Direct Investment, 1979-86 (million US $)

Country (Region)	1979-82	1983	1984	1985	1986
Hong Kong / Macau	3676.9	642.3	2175.5	4134.3	1773.4
Japan	860.4	94.5	203.0	470.7	282.8
Singapore	38.2	16.3	62.6	75.5	140.8
West Gremany	36.0	0.6	105.2	20.3	55.6
Italy	67.3	35.6	10.1	24.5	91.6
United Kingdom	16.9	304.8	12.6	44.3	51.7
Canada	0.7	64.9	0.0	8.7	91.0
U.S.A.	382.3	477.5	165.2	1152.0	541.5
Others	457.0	280.4	140.7	402.9	302.0
Total	5535.7	1916.9	2874.9	6333.2	3330.4

Source : Almanac of China's Foreign Economic Relations & Trade, 1987, p.550-2; 1986, p.1218-20; 1985, p.1072-73; 1984, p.1093-4 and p.1099-1100.

sufficient funds for the expenditures required in her economic take-off, the fundamental strategy for absorption of foreign capital is the so-called "give more preferential treatments but less subsidies" (多给政策少给钱). The basic idea of this stategy is to ease the burdens on the budget and foreign reserves of the central government. Instead of direct subsidies or financing infrastructures to attract foreign investments, it is hoped that the preferential measures given to foreign investors on taxes, flexibilities in operations and acquiring supply of raw materials, together with low wages and rents, and also abundant natural resources in China, would provide economic incentives for foreign investments, which would in turn provide sufficient revenues for construction of infrastructures. Without exception, local governments do rely on their own finances to improve the environment for attracting foreign investments. In fact, in the past years, the central government, through some preferential measures such as reduction in local taxes, etc., has indirectly provided supports when necessary.

The Chinese policies towards foreign investments have undergone several abrupt changes since 1979 and adjustments are common throughout this period. In the early years of Deng's open door policy, China has no concrete plan to absorb of foreign capital. The advocates at that time did emphasize the direct effects of foreign investments but rarely mention the indirect ones. In fact, China welcomes all kinds of investment whenever available and there was no

observable criteria for selecting the appropriate ones. At that time, many direct investment, especially those in the processing/assembling business introduced many machineries of the so-called "sunset industries", which have little benefit to China in the long run.

The worldwide economic recession in 1981-82 did not only affect rate of absorption in foreign capital but also perforemance of the utilized investment in China. In fact, in some SEZs, some joint ventures cannot maintain their normal production. The direct effects of these investment, such as foreign exchange earning and employment generation, are far below expectation. To argue for the continuing existence of SEZs, some Chinese economists began to emphasize the linkage and demonstration effects of foreign direct investments instead of their direct impacts in the short run. This so-called "wai-yin-nei-lian" (外引內聯) strategy was then adopted by the Chinese government in interpretation of the role of foreign capital. Under this strategy, inland enterprises were encouraged to establish joint ventures with foreign investors in the opening zones and SEZs, aiming at speed up technological transfer in China. Joint ventures and contractual joint ventures were thus advocated as the best form in utilization of foreign capital.

However, many enterprises in the opening zones did not really make use of the opportunity to absorb advanced technology and management experience, and transfer then to inland enterprises. Instead, through their connections, they

concentrated at importing consumption goods for the mainland localities for profits and exporting unauthorized commodities (水貨) for earning foreign exchange. One of the well-known examples was the unauthorized importation of cars and trucks from Hainan Island to the mainland in 1984-85.

In 1984, the overheating of the Chinese economy induced a severe trade deficit and a sharp drop in government's foreign reserve. The situation was worsen under the so-called "wai-yin-nei-lian" strategy because many enterprises in the opening zones prefer to import more to the mainland for more profits and engage in unauthorized exports to obtain more foreign exchange for more imports. Hence, imports were increased but official exports and thus foreign exchange earnings of central government were greatly reduced. The adverse economic situation in 1984-85 led restrictive policies in macro management and also absorption of foreign capital in mid-1985. These include : (i) resumption of local government's power to approve foreign investments, (ii) curtailing the powers of local branches of Bank of China to extend credit in foreign exchange, and (iii) reduction of central government's support in foreign exchange to local governments and most foreign investment projects, demanding them to balance their foreign exchange budget by themselves.

In addition to adopting restrictive policies, the slogan for adsorption of foreign capital was once again adjusted. Project undertaken by foreign capital was required

to shift to "productive items" rather than "non-productive" ones, and to export-oriented industries rather than import-substituting ones. A new strategy to absorb foreign capital, known as "gong-ye-wei-zhu, gong-mao-jie-he" (工業為主，工貿結合), was then emphasized. Under this strategy, it tried to attract capital for industrial production, which was then mainly exported. Here, exports and industrial products of foreign investment are closely linked up. Therefore, the direct effects, such as foreign exchange earnings, did once again become the most important.

The effects of these restrictive policies became apparent in 1986. As local governments and enterprises found difficulties to finance the new foreign investment projects and also there is a general dissatisfaction with investment environment from foreign investors (Section 2.1), there was a sharp drop in the contracted amount of foreign direct investments (including 61.2% drop in contractual joint ventures, 47.4% in joint ventures, 55.5% in wholly foreign-owned enterprises and 77.5% in joint exploration). The fast retreat of foreign investors alarmed the Chinese leaders, who decided to remedy the situation by the end of 1986. From October 1986, many regualations and special measures (such as the famous Twenty Two Articles discussed in Section 2.3), which offered more favourable terms on labor employment and imports of machineries and raw materials in foreign investments, were announced by the State Council. The previous controls on provinces and local enterprises were then relaxed. Provinces were allowed to supplement the

preferential treatments of the State Council according to their particular circumstances. As in 1984, they again actively plunged to absorb foreign investment. The only difference from October 1986 onwards was that the slogan was corrected to "gong-ye-wei-zhu and gong-mao-jie-he", aiming to attract capitals for promoting exports and foreign exchange earnings.

In spite of a sharp drop in the contracted investment of the "foreign-funded ventures", the processing/assembling activities performed outstandingly in 1986. They rose by 42.4% while compensation trade had a 20.2% increase in 1986. As seen in Guangdong Province (Table 4), processing /assembling activities did indeed maintain an outstanding performance in 1987. The distinguishing results in processing/assembling activities have attracted attentions of the Chief Secretary, Zhao Ziyang, who openly supports an idea of "International Big Circulation" (國際大循環) in early 1988. In this strategy, the processing/assembling business will be given the top priority in the local economic development of the coastal region. However, as the Chinese leaders do still hold different opinions towards this strategy, the strategy has not been formally adopted yet.

2.3 Measures to Encourage Foreign Investment since 1979

To encourage more foreign investment, the Chinese government has adopted a list of special measures since 1979. The important ones include :

1) Increase the Autonomy of Local Government :

In order to absorb foreign capital efficiently, the central government delegates decision powers to provinces or SEZs to approve investment items less than a certain amount. This amount varies differently according to different industries and different opening zones. It is occasionally increased in the recent years for attracting more investment.

To motivate local governments, they are allowed to retain part of their foreign exchange earnings. The usual practice is to set a particular target on the amount of foreign exchange earnings for each local government, which is allowed to keep about 30% of the target for its own use. The local government could, on the other hand, retain about 70% of the portion in excess of the target amount. In SEZs, for example Shenzhen, the share of local government is raised to a higher proportion.

The decentralization of powers was first practised in Guangdong and Fujian in 1979 and later allowed in some provinces along the coast and inland. In order to promote foreign investment, the trend in the past years is more decentralization (although there occured resumption of local government's power in approving foreign investment from late 1985 to 1986). The degree of autonomies enjoyed by local governments can be arranged in the descending order as follows : SEZs (most autonomous), economic and technological development zones associated with fourteen coastal cities, 14 coastal opening cities and other opening areas. In the

First Session of the Seventh National Congress in March 1988, more decentralization is now being considered for Guangdong Province, which is a testing ground for economic reforms in the coming years.

2) Preferential Taxation

The preferential taxation policies are often offered to provide economic incentives to foreign investors. Since 1979, the Chinese authority has promulgated a number of laws and regulations concerning foreign investments. These laws cover various different areas, including industrial and commercial consolidated tax, income tax, individual income tax, import and export duties and tariffs, etc.

All foreign investors are required to pay industrial and commercial consolidated tax in accordance with the stipulations of the 1958 regulations. However, to encourage foreign investment, supplementary provisions have been stipulated to offer foreign investors exemptions of the industrial and commercial consolidated tax in the following items since 1979 : a) imports of machineries, equipments, spare parts and other necessary goods within the quota of the total investment of the enterprise, b) imports of raw materials, components and spare parts for producing commodities for exports, c) raw materials and equipments needed for production under processing/assembling business. In some cases, reduction or exemption of this tax are considered for foreign investors who mainly produce goods for the domestic market but find diffculties in paying taxes

during the first few years of operation.

To attract more investors, preferential treatments in tariff are given to foreign investment in SEZs and 14 open cities. They are exempted from import duties when importing machineries, equipments, spare parts, raw materials, vehicles and other means of production needed for operation. To encourage more exports from these enterprises, their products are exempted from export duties if they are sold in the international market.

All incomes of Chinese-foreign joint ventures are subject to tax. The income tax rate of these enterprises is a flat rate of 30% with a local surtax of 10% in addition, i.e. a total tax rate of 33%. Usually, an investment operating for a period of 10 years or more is given a tax holiday in the first two profit-making years and may be allowed a 50% deduction for the three following years. Special preferential measures on income tax have been provided for foreign enterprises in the SEZs, 14 open coastal cities and development zones since November 1984. From 1984 onwards, the income tax rate of enterprises in these areas is reduced to 15%. If the investment is engaged in productive items (such as industry, transport and communications, agriculture, forestry and animal husbandry) for a period of 10 years or more, the income tax is exempted in the first profit-making period and then allowed a 50% tax deduction period, summing up to a total duration of five years in maximum.

3) Legislation and Law Reform

As the rule of law is highly respected in Western societies, the Chines government has emphasized legislations to protect the rights of foreign investors since her opening. From 1979 onwards, the National People's Congress has promulgated a list of laws and regulations concerning various aspects of foreign investments. In 1979, for example, a set of laws and regulations governing joint ventures and joint explorations was drafted. For the wholly foreign-owned enterprises, their interests and rights are protected under the Law of the People's Republic of China on Foreign Wholly-Owned Enterprises (1986).

In order to promote her attractiveness to foreign investors after their withdrawal in late 1985, the State Council issued Provisions on the Encouragement of Foreign Investment, known as the Twenty Two Articles (二十二條), in October 1986. The spirit of these Provisions is to relax controls on enterprises and provide economic incentives to foreign investors. Regulations and supplementary laws, including more favourable terms in labor employment, foreign exchange balance and registration procedures to foreign participants, were announced subsequently in late 1986 and is valid until now. The efforts of the Chinese authorities in legislation and law reform do in some extent reduce suspicions and anxiousness of foreign investors.

Chapter III

A Study of Processing/Assembling Business And Compensation Trade : The Case of Dongguan City

3.1 Background

Dongguan started its engagement in processing/assembling business and compensation trade (for simplicity, it is referred as processing/assembling business later because processing/assembling activities are most dominant in Dongguan) just when China resumed its open door policy by the end of 1978. The processing activities have made a marked increase for the past years and now become a distinctive characteristic of its economy. In 1986, Dongguan was ranked top among all counties in the Guangdong province (and hence in the whole China) as far as the ability to earn foreign exchange was concerned. Among all sources, processing fees from processing/assembling activities accounted for almost 30% of its total foreign exchange earnings in that year (Table 7). The importance of processing/assembling business in Dongguan is more pronounced if we look at its growth rate over the period 1979-86. As seen in Table 7, both foreign exchange earnings and earnings from trade doubled from 1979 to 1986 in Dongguan, while the earnings from processing activities has risen about 30 times for the same period. It is no doubt that Dongguan has been the number one county in Guangdong province (or even the whole nation) in earning processing

Table 7

Foreign Exchange Earnings in Dongguan 1979-86

Year	Export-processing fees (*)	Sub-provincial Exporting earnings (*)	Exports through provincial organizations (*)	Overseas Remittances (*)	Foreign Exchange Earnings #
1979	2.35		49.03	24.00	75.38
1980	18.15		59.22	23.62	100.99
1981	26.50	56.74	8.49	8.02	99.75
1982	33.56	67.23	7.85	7.94	116.58
1983	45.89	65.84	6.84	4.50	123.07
1984	51.11	60.30	5.93	2.56	119.90
1985	59.98(**)	96.53	10.32	1.03	167.86
1986	62.69(**)	144.40	12.43	1.07	220.59
1987	107.00(**)	n.a.	n.a.	n.a.	n.a.

Notes :
(*) in US$ million
(**) About US$ 6.36 million in 1985 were recorded as formal trade as a result of the involvement of foreign trading system in Dongguan's export-processing activities. The corresponding figure for 1986 was US$ 16 million. The figure in 1987, however, differs from 1985 and 1986 as it excluded the fees from foreign trading system.
Foreign Exchange Earnings = Export processing fees + Sub-provincial exoporting earnings + Exports through provincial organizations + Overseas Remittances

Source :
(1) James K.S. Kung, Thomas M.H. Chan, `Export-led Rural Industrialization : The Case of Dongguan in the Pearl River Delta in China', paper presented at the Conference `Chinese Cities in Asian Context', held at the University of Hong Kong, 17-19 June, 1987.
(2) Yue Gang Xin Xi Bao , February 18, 1988.

fees from processing/assembling business.

There are a number of factors which account for Dongguan's attraction to foreign investors in engaging processing/assembling activities. The more dominant ones are as follows:

(1) Location factor:

Dongguan situates at the Southern tip of the Pearl River Delta and is very near to three economic centres in South China, namely Guangzhou, Shenzhen SEZ and particularly Hong Kong. Its proximity to Hong Kong is a distinctive advantage over other counties in attracting processing/ assembling business as the transportation cost involved is greatly reduced.

(2) Good transportation and communication:

From 1980 onwards, Dongguan has invested more than 140 million to improve its transportation network. Fotry-six bridges were built or reconstructed and about 1000 kilometres of road surfaces were improved. The railways, bridges, highways and ports in Dongguan altogether serve its economic lives with an efficient and also inexpensive connection within and outside the county.

The good communication is also prominent in Dongguan. The city has installed twenty thousand programmable control telephone lines and also international direct dials since May 1987. The telephone network is the most advanced one among all counties in China.

Due to the pronounced improvements in

transportation and communication, the operating costs of foreign participants are expected to be much lower than those in other counties in Guangdong province (except SEZ).

(3) Reliable power supply:

Power shortage is one of the most well-known obstacles in China's economic development process. There is no exception in Guangdong province. In Dongguan, however, the problem of power shortage is, to some extent, alleviated as businessmen from Hong Kong (mainly the Hopewell Corporation) have participated in investment projects on construction of two electric power generation plants (which increase the original power supply by 40 times) in Sha-jiao (沙角). Hence, power supply is more reliable in Dongguan than in other counties nearby in Guangdong, although there is still no electricity supply for one day once a week. To meet the increasing industrial demand on power in 1990's, another power plant is now being planned.

(4) Efficient adminstration and appropriate leadership:

In September 1978, a working group under the local Party committee was set up to exploit the possibilty of bringing in processing activities. Later, this group was developed into a special office, namely Office for Export-processing (對外加工裝配辦公室), which was solely responsible for export-processing matters. The office includes officials from a number of different state offices and organizations (for instance the local planning commission, economic commission, bureau of industrial and commercial adminstration, bureau of public security, customs

office and local branches of state banks and insurance company etc.) which together provide an efficient adminstrative body to serve the processing/assembling business. All activities, such as negotiations of contracts, arrangements of exports through customs or resolution of conflicts and payment settlement etc., are all held in this office. In a personal interview with an officer-in-charge of that office, it was learnt that the time for approving a contract in processing/assembling business needs only half a day, which is much shorter than the time needed in other places (e.g. it takes approximately one week in Shenzen SEZ to get such an approval).

The appropriate leadership in Dongguan can be seen from government officials' flexible attitudes in managing processing/assembling business. Many local measures are employed to facilitate the investors' operations of business. Some examples are a higher exchange rate for each foreign currency earned by processing/assembling enterprises and the setting up of foreign exchange trading centre (外滙調劑中心). These measures are explored in the next paragraph.

(5) Preferential treatments and flexible meaures:

Dongguan has adopted a list of special policies and flexible measures as early as in late 1970's when the State Council allowed Guangdong to enjoy such measures. In 1985, Dongguan was promoted to the city level (it was formerly the county level) and became part of the Economic

Opening Zone of the Pearl River Delta.

As part of an opening zone, Dongguan is able to enjoy the right to offer preferential treatments similar to those in opening cities and SEZs. These treatments cover different areas and the details are described in Section 2.3. Moreover, up to my understanding from several field visits, it was learnt that the Dongguan government itself offers some local measures (which are adopted locally and may not have approvals from provincial or central government) for encouragement of foreign investments, in particular, of processing/assembling business[1]. The most important ones are :

(a) Setting up of foreign exchange trading centre:

Before the set up of this centre, enterprises are only allowed to sell their excess foreign exchanges to local branches of Bank of China, at which the official exchange rate is artificially biased upwards. Therefore, many enterprises are unwilling to sell their foreign reserves and just let them idle or use them to import luxury comsumption goods for capturing economic rent. The setting up of this trading centre allows both the users and suppliers (only enterprises but not individuals are allowed) of foreign exchange to engage directly at a rate approaching the 'true' value in the 'black' market. Hence, the transfer of precious foreign exchanges between enterprises facilitated more

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1 see 'The downfall of san-lai-yi-bu activities in Foshan', Wen Wei Po, Hong Kong, January 5, 1988.

efficient uses. In November 1985, the first foreign exchange trading centre was founded in Shenzhen SEZ and proved to be welcomed by foreign investors[2]. Later, the Dongguan city government decided, without any approval from higher authorites, to set up such centres to facilitate flows of foreign exhanges among "three types of foreign-funded ventures", processing/assembling business and some local Chinese factories. Even though the ceiling price is restricted to below the 'true' market rate, the centre does provide a channel to facilitate these transfers and proves to be an effective measure in attracting foreign investment.

(b) Higher exchange rate for each foreign currency earned in processing/assembling business:

The enterprises involving in processing/assembling business are compelled to sell their foreign-currency incomes to local branches of Bank of China at official rate which does highly overestimate the value of Renminbi. This practice has severely eroded the incentive of enterprises in processing/assembling and compensation trade activities and hence restricted their development[3]. However, during my

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2 As these trading centres have been welcomed by foreign investors and can facilitate absorption of foreign capital, it is learnt that China will establish a total of 22 centres very soon. Da Kong Po, Hong Kong, May 13, 1988.

3 The drastic decline of incomes of processing/assembling activities in Foshan in recent years, according to Foshan officials, is mainly due to the practice described in the text, see 'The downfall of processing/assembling and compensation trade activities in Foshan', Wen Wei Po, Hong Kong, January 5, 1988.

field visits, it was understood that the city government in Dongguan has locally offered a higher exchange rate to the enterprises involving in processing/assembling and compensation trade activities for some time. The exchange rate for each Hong Kong dollar earned is approximately in the range Y5.3 - Y5.7 (responsive to the `black' market rate) instead of the fixed official one at Y4.7. Needless to say, this measure provides strong incentives for local enterprises to engage in processing/assembling and compensation trade activities and therefore it has a great contribution to the recent drastic growth of these business in Dongguan.

3.2 Characteristics of Processing/Assembling Business in Dongguan

From Tables 7 and 8, we can see that Dongguan has maintained a considerable growth since its engagement in processing/assembling and compensation trade activities. There began a drastic progress in both the amount of processing fees received and the total number of these activities in operation after 1984, especially in the year 1987. The abrupt growth in 1985 was due to a small nation-wide `great leap forward' in absorption for foreign capital in 1984-85. However, the trend in Dongguan did not follow the national trend of sluggish growth in foreign direct investment in China in the period 1985-86. The reasons are probably:

Table 8

Processing/Assembling and Compensation Trade Activities in Dongguan 1979--1987

Year	Number of Contracts Signed	Total Number in Operations
1979	194	140
1980	415	569
1981	553	855
1982	468	1125
1983	447	1281
1984	508	1265
1985	514	1592
1986	559	1672
1987	729	2527 *

Notes :
* This figure records the number in the period Jan-Nov of 1987.

Source : Field work by the author in 1987 and 1988.

Table 9

Classification of Operating Processing/Assembling and Compensation Trade activities in Dongguan by Business Type (1979 - Nov. 1987)

Business Type	Number in Operation
Plastics	94
Artificial Flowers	44
Metal Scrups	260
Electronics & Electrical Appliances	257
Foodstuffs	7
Knit Wool	521
Costumes	439
Beading Works	30
Textiles	4
Gloves	37
Handbags	76
Shoes	70
Rattan Manufactures	21
Toys	295
Others	372
Total	2527

Source of data: Field work by the author in 1987 and 1988.

(1) flexible local measures (described in Section 3.1) are adopted to provide additional incentives to both foreign investors and local enterprises and (2) the operation of processing/assembling activities relies mainly on the world market and hence is not affected by the central government's restrictive policies. The outstanding performance in 1987 is due to the booming economy of Hong Kong, which drives Hong Kong businessmen to extend their business to China for reducing the labour cost (Labour shortage in Hong Kong drives up the wage rate in 1987).

According to local statistics[4], there were about 105 thousand sets of machines (valued at U.S.$ 40.52 million) introduced in processing/assembling business by the end of 1986. The industries in which these investments are distributed are reported in Table 9 and altogether they produce more than 4000 items. At 1986, there were 143,775 (about 170,000 in 1987, see Yue Gang Xin Xi Bao, February 18, 1988) workers involved in processing/assembling business, in which 83,982 workers came from other counties. This employment figure has, to some extent, revealed the importance of processing/assembling activities in its industrial production as it employs about 46.6% of the total number of workers in all the industrial enterprises in Dongguan.

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4 An Investigation Group on Economic Development of Dongguan, 'The Golden Hope---Dongguan in Reform and Open', Guangdong People's Press, Guangdong, 1987, p.98.

From Table 9, we can see that foreign investors have concentrated at light industries in which high technologies are not emphasized. Among the investments, costume and costume-related business (about 38.0%), toys (11.7%), metal scraps (10.3), artificial flowers (3.7%), and electronics and electrical applicances (10.2%) have an overwhelming importance. This distribution is easily understood because the nature of processing/assembling activities in these industries does not require any element of sophisticated technology in their production. In fact, all the businesses involved here have looked for a cheap and abundant labor supply rather than a skilful and technical one. Moreover, most foreign investors in processing/ assembling activities come from Hong Kong, a place lacking in high-tech industries. Therefore, heavy industries (and industries with high technology content) are rarely found in processing/assembling activities of Dongguan.

Processing/assembling factories have spread over all villiages and towns in Dongguan since 1979. The attractions of processing/assembling business have induced rural areas to engage in these activities without much consideration and coordination. The uncoordinated and unrealistic plannings in attracting these investors have greatly increased the infrastructure and transportation cost although these activities indeed play a significant role in rural industrialization process. From 1984 onwards, some special zones (for examples, Jianda Industrial Villiage in

Changping (建達工業村), The Third Industrial Zone in Shijie (石碣鎮), The Second Industrial Zone in Changan (長安鎮), etc.) are established to accomodate processing/assembling activities only, aiming to reduce the cost of infrastructure and to provide efficient management and services to foreign investors. The establishment of these processing zones is one of the distinguishing characteristics in Dongguan's processing/assembling activities.

Finally, another distinguishing characteristic in Dongguan is that the leaders in the city government have tried every effort to establish some processing/assembling centres in which some particular industries are emphasized. For instance, the costume processing centre is found in Shilong (石龍鎮), the shoe processing in Houjie (厚街鎮), the artificial flower in Humen (虎門鎮) and also beading works in Shijie, etc. In these centres, processing/assembling activities of similar nature or in similar industries are concentrated. It is expected that externalities in production may be found when these centres develop into a rather mature stage.

3.3 Analysis of Surveys conducted in Dongguan

The surveys are conducted through two channels: (1) field visits and interviews with superintendents of processing/assembling enterprises and (2) mailed questionaires. The results presented in this section are by no means representative. (However, these results may be

treated as a representation of some outstanding or well-performed examples in processing/assembling business because (a) the field interviews were arranged by local cadres who have an obvious intention to introduce the well-performed enterprises and (b) the enterprises selected for mailing the questionaires are mainly learnt from local newspapers and publications which usually serve as propagandas and hence choose the better ones as examples to promote these businesses). Nevertheless, these results can be trusted to give a rough but meaningful picture when we discuss the impacts of procesing/assembling activities.

There are altogether 34 processing/assembling enterprises which give positive responses in the survey (however, some refused to respond to certain questions in the questionarie). As seen in Table 10, the distribution of these enterprises in different industries is similar to that of the whole Dongguan city shown in Table 9 (although metal scraps are not found in the survey). Costumes, knit wool, toys, electronics and electrical appliances and toys are the backbones of processing/assembling business. Table 11 records the amount of processing fees received by these enterprises in the last year. These figures have, to some extent, indicated that the performance of these enterprises are well above the average (U.S.$ 107 million for 2527 enterprises i.e. the average processing fee is H.K.$ 320,000 for each enterprise) and therefore examination of them is reasonably believed to be essential (though not

Table 10

Classification of Processing/Assembling Business in the Survey by Trade

Trade	Total Number
Toys	4
Plastics	2
Artificial Flowers	2
Knit Wool	7
Costumes	7
Electrical Appliances	5
Stationery	1
Wood Furniture	1
Clocks	2
Gloves	1
Handbags	1
Glass Frames	1
Total	34

Table 11

Processing Fees of the Enterprises in the Survey in the Year 1987

Processing Fees (ten thousand HK$)	Number of Enterprises (*)
Below 50	4
50 ---- 100	5
100 ---- 200	9
200 ---- 300	3
300 ---- 400	3
400 ---- 500	3
500 ---- 1000	3
Above 1000	1

Notes :
(*) The total number of enterprises shown here is smaller than that in Table 10 because some enterprises failed to indicate this amount.

comprehensive) in understanding the impacts of foreign capital in processing/assembling business.

Before a deeper discussion can be proceeded, it is natural for us to have more information about the features of these processing/assembling activities in the survey.

(1) General information:

The enterprises participated in the survey started their processing/assembling activities at different dates. Some have eight to nine years history and some only have a fresh experience of one to two years. The various lengths of experience of these enterprises do indeed provide a good variety for our discussion. Moreover, the contracts of these activities offer them quite a long period of cooperation with foreign investors. Most of them have contracts covering five years and others even more.

The machineries and equipments used during processing are almost all imported from foreign investors. However, they are either repaid by local enterprises (deducted about 20% of their processing fees annually) or rented from foreign investors. In the study, nearly half of the enterprises rent machineries and equipmemts for their operations. Moreover, it is found that renting machineries and equipments for production became more common after 1984, indicating that the cost of imported machineries became expensive and hence local enterprises cannot afford to pay for them by their processing fees. This phenomenon agrees with the trend of the amount of pledged investment per

contract in Guangdong's processing/assembling business shown in Table 6.

Another interesting point worth remarking in this study is that it is very common for foreign investors to engage in processing/assembling business in more than one places. Out of the thirty-four responses, there are twenty-seven foreign investors having other local partners i.e. foreign investors also participate in processing/assembling business in other towns of Dongguan or even other counties of Guangdong province.

Finally, it is worth noting that nearly all foreign investors (except one from West Germany) in the survey come from Hong Kong. They usually engage in processing/assembling activities which is similar to their original business in the host country.

(2) Labour management

The average labour employment in each processing/assembling enterprise of Dongguan is about 68 (a total employment of 170,000 people in 2527 processing/ assembling enterprises by the end of 1987). From Table 12, it can be seen that an overwhelming proportion of the enterprises in this study has employed workers well above the average number (only 3 out of 34 have employment below 100). This is again another indicator that these enterprises are among the outstanding ones in processing business in Dongguan.

Nearly 90% of the generated employments in these business belong to unskilful workers and common labourer.

Table 12

Number of Employees in the Processing/Assembling Enterprises in the Survey

Number of Employees	Number of Enterprises
Below 100	3
100 ---- 200	5
200 ---- 300	5
300 ---- 400	7
400 ---- 500	5
500 ---- 1000	6
Above 1000	3

Table 13

Average Monthly Wage of Each Worker in the Processing/Assembling Enterprises in the Survey

Average Monthly Wage (RMB)	Number of Enterprises
Below 100	0
100 ---- 120	2
120 ---- 140	4
140 ---- 160	6
160 ---- 180	6
180 ---- 200	9
200 ---- 220	2
220 ---- 240	1
240 ---- 260	1
260 ---- 280	0
280 ---- 300	0
Above 300	1

Table 14

Technology Level Used in the Production Process of the Processing/Assembling Business in the Survey

Technology Level	Number of Enterprises
Late 80's	3
Early 80's	13
Late 70's	8
Early 70's	4
60's	3
Before 60's	1

From the responses, it can be seen that less than 10% of the total employment in each enterprise fall into positions of managers, senior executives, technicians and skilful labours etc. In the past years, the booming activities in processing business has created a strong demand for unskilled labour, which is an essential feature of Dongguan's labour market and will be further discussed later.

The education level attained by managers, senior executives or technicians etc. in processing/assembling enterprises is an interesting point for discussion. In my study, twenty-three enterprises (out of a total of thirty-four) have no manager or senior executive with university education. Others only employ very few (usually less than 10% of the total recruitment in this rank) if it has any. In fact, there are only fifteen enterprises employing over 50% managers or senior executives with a senior high school education while the remaining enterprises (a total of 19) recruit most of their managers or senior executives with completion of only a junior high school level or even lower. For technicians and skilled labour, the average education level attained is somewhat higher than that of managers or senior executives. Usually, about half or even more of the employed attained a senior high school level while the number with junior high school (or even lower) has far exceeded that with university education (about 22 of them has no skilled labour or technician with university level).

As can be seen in Table 13, the average monthly

wage mostly falls within the range Y140 - Y200, which is higher than other counties in Guangdong. The effect of the comparatively high wage deserves attention as it may be expected to provide (i) additional working incentive for labour, (ii) more disposable incomes for consumption and hence stimulates local enconomy, and (iii) a strong attraction to labors in the nearby counties. In fact, there are 17 enterprises in the survey employing over 50% workers from other counties. Moreover, it should be remarked that my study reveals that the difference in income between unskilled labour and others is significant (usually about 40% differentials) while the incomes of managers/senior executives and skilful labour/technicians are more or less the same.

One more interesting point to note is whether training will be provided in processing/assembling business. The result obtained is unexpected: 19 out of 34 enterprises indicate that training is provided for their employees. However, if the contents of these trainings are investigated, this result is then not so surprising. Most of the trainings provided in these business are the so-called "on the job trainings", which allow new workers to practise their work during the first few days of their employment. Such trainings are used to help new workers to adapt to the production process rather than to provide a comprehensive program to upgrade the quality of labour. However, in two giant enterprises (out of three with employment of over one thousand workers), special trainings have been offered to a

few managerial staff. These include foreign language instructions and knowledge of production management.

(3) Technology level

From Table 14, it is surprising to learn that most of the processing/assembling enterprises employ technologies in late 70's and early 80's for their production. This may be accounted for by the proposition that the enterprises selected in this study are among the outstanding ones in Dongguan and hence they can employ more up-to-date technologies in their processing/assembling activities. However, it is not easy to identify the exact technology level used in the production, especially when the local managers are not well-educated. Therefore, the answers given should be interpreted carefully.

About 90% of the responses (26 out of 29 valid answers) indicate that nearly all (over 90%) of the machineries and equipments for the production are imported. As shown in Table 15a, the main source of these machineries and equipments is Hong Kong which is more or less the sole investor of these enterprises.

The nature of processing/assembling activities strictly requires that all the raw materials used must be imported from foreign countries. However, a few (7 out of 34) have employed a significant ratio (20-50%) of the raw materials from local sources. The reason may be that their business do not wholly rely on processing activities. They probably have products for local markets in which a heavy

Table 15a

Sources of Machineries/Equipments Employed by the Processing/Assembling Business in the Survey

Source	Number of Enterprises
Hong Kong	22
Japan	13
U.S.A.	2
West Germany	3
Taiwan	2
United Kingdom	1

Table 15b

Sources of Raw Materials Used in the Production Process of the Processing/Assembling Business in the Survey

Source	Number of Enterprises
Hong Kong	23
Japan	8
U.S.A.	2
South Korea	3
Taiwan	2
West Germany	1
United KIngdom	1
Others	3

Table 16

Sources of Production Technology Employed by the Processing/Assembling Enterprises in the Survey

Source	Number of Enterprises
Local firms	4
Local research development institution	0
Foreign investors	29
Sino-foreign joint research	2

tax will be levied on their products if the products are made from imported raw materials. From Table 15b, a great majority of these processing/assembling enterprises has imported raw materials from Hong Kong. It may probably be inferred from the data shown in these two tables that productions in the processing/assembling enterprises do depend heavily on the fate of Hong Kong economy.

Table 16 gives us an idea about the sources of production technology employed by these processing/ assembling enterprises. An overwhelming ratio, 29 out of 34, has relied on foreign partners to provide the necessary technology for their productions (27 enterprises rely solely on foreign investors). Moreover, it should be noted that research and development efforts are not appreciated in the operation of processing/assembling business. From Table 16, only two of all the studied enterprises (both are costume industry with employment number between 250 and 300) have tried to take notice of their joint research efforts with foreign investors in employing the appropriate technology for the production. As these enterprises are believed to be the outstanding ones among all processing/assembling enterprises, it seems that most of these enterprises in Dongguan do heavily depend on foreign participation in their normal operations. They may have difficulties in operation if left alone.

3.4 Impacts of Processing/Assembling Business

In this section, the impacts of processing/assembling business are discussed in the light of experiences of Dongguan. It is very imprudent to conclude that these impacts are common and typical as the situation varies differently in different provinces. However, it is worthwhile to have a detail examination of these impacts as Dongguan is the top one among all counties of China in utilizing foreign investment in the form of processing/assembling business.

The direct impacts of processing/assembling activities are easily identified. These include:

(1) Increase in income and foreign exchange

The processing activities have contributed an important part of Dongguan's economy. In 1986, the processing fees contribute directly to about 9.5% of personal incomes and 14% of national income in Dongguan.

Income in foreign currency is precious as the foreign exchange constraint is severe in China's economic development. As processing fees must be paid in foreign currency, processing/assembling business provide a very reliable source in meeting its foreign exchange constraint. In 1986, processing/assembling business contributed about 20.5% of the total income in foreign currency of Guangdong province. The ratio is found to be much higher in Dongguan (about 28.4% as seen from Table 7).

(2) Employment generation:

Before absorption of foreign investment in 1979, there was serious disguised unemployment in Dongguan. It was estimated that there were about 300,000 surplus labour in agricultural sector[5]. However, by the end of 1987, processing/assembling activities have created a total employment of about 170,000, of which only half are local people. It is very clear that processing/assembling business do contribute significantly in alleviating the unemployment problem in Dongguan.

(3) Introduction of machineries and equipments:

In processing/assembling business, most enterprises employ imported machineries and equipments in the production process. The introduction of these machineries has assisted Dongguan to establish new industries (such as knit wool, artificial flowers, electronic and electrical appliances etc.) and to improve the existing ones (e.g. plastics, costumes and toys). A number of these machineries and equipments will still remain in the hands of the local enterprises when the contracts expire as these enterprises pay for them from their processing fees (in the survey 19 out of 34 enterprises have already purchased these machineries and equipments). The introduction of these machineries and equipments does indeed provide the rural areas of Dongguan an industrial

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5 see An Investigation Group on Economic Development of Dongguan, "The Golden Hope : Dongguan in Reform and Open", Guangdong People's Press, Guangdong, 1987, p.8.

basis in their development process.

(4) Technology Transfer

It is expected that foreign investments will transfer elements of advanced technology to China during their operations. As shown in Table 16, an overwhelming ratio in the study has employed technologies which come solely form foreign investors. However, from Table 14, about half of the enterprises in the study have employed backward techniques (before 80s) and few (only 3) use up-to-date technology in their production. If we accept the proposition that these enterprises represent the outstanding ones in Dongguan, it seems that it is not a common phenomenon to employ very advanced technologies in processing/assembling business (although foreign investors assume an important role in providing the required technology for production).

Also, it should be noticed that most enterprises can only afford to purchase backward machineries and equipments. For more up-to-date ones, they usually cannot afford to own them but rent for their production. In fact, the production scales of most enterprises in Dongguan will restrict the possibilities for them retain these machineries for their future production.

In case of leasing more advanced machineries and equipments in their production process, the labours may have chances to absorb these technologies by the so-called learnig-by-doing process. However, the extent of technology transfer should be very much related to the learning capabilities of employees in the enterprises. In the study,

the education level of all the employees (including managers, senior executives, technicians, skilful labor and common workers) is very low. It is difficult to expect them to absorb these technologies and management skills effectively. In fact, techniques and skills employed in the production are supported by skilled workers from Hong Kong and only routine labour works are emphasized in these processing/assembling enterprises.

Besides the direct impacts, the linkage effects or the indirect impacts should not be overlooked. Unlike the direct impacts, the linkage effects are not so obvious and sometimes difficult to assess. Moreover, the qualities rather than the quantities of these indirect impacts can be discussed in the following paragraphs.

(1) Indirect employment generation

It was estimated that a total of over 500,000 new vacancies are created in the period 1979-1986, i.e. Dongguan has absorbed its original 300,000 surplus labor and provide in addition 200,000 for labors from other counties[6]. Although this figure cannot provide an accurate measure on indirect employment generation (because it includes employment generated from other local economic activities), it serves to give an indicator as the main activities in Dongguan are significantly related to the processing/assembling ones. The booming processing/assembling business

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6 see An Investigation Group on Economic Development of Dongguan, "The Golden Hope : Dongguan in Reform and Open", Guangdong People's Press, Guangdong, 1987, p.9.

has stimulated local economy which in turn generate further employment in other sectors such as commercial or catering service sectors. In Changping, for instance, over 1000 individuals (個體戶) joined the service sector.

(2) Indirect income generation

The processing/assembling activities have stimulated expansion of local economy in Dongguan. The booming activities in recent years have significantly raised its personal income. In Changping (常平鎮), for example, the average income per capita has increased by 8.21 times in eight years[7] (RMB 127 in 1978 is increased to RMB 1170 in 1986). Moreover, the growth of personal income due to processing activities has raised personal consumption, which in turn promote catering services, retail and other business in the commercial sectors. This induced effects should be appreciated as their importances grow in recent years. In Changping, for instance, the total business amount of catering sector reached over 8.4 million RMB in 1986, more than 7 times of the amount in 1978.

(3) Investment in infrastructure and agricultural inputs

The shortage of capital (or saving) for local accumulation is a serious hindrance in its economic development when Dongguan started its opening in late 70s. However, after introduction of processing/assembling business, the situation changes. From the total processing

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7 Guangdong Foreign Economic Relations and Trade, Volume 4, 1987, p.8.

fees earned in the period of 1979-86, half of this income belonged to collective economic units, which use the money to build new factory sites and construct new roads and bridges. The improvements of investment environment and infrastructure, which is usually a heavy burden and severe restriction in local economic development process, was financed from processing fees, providing valuable opportunities for rural industrialization.

Moreover, according to local statistics, it was estimated that about 0.2 billion dollars (in RMB) from the accumulated processing fees (a total of 1.15 billion dollars in RMB) in the period 1979-1986 were employed for agricultural inputs. The inputs are used in three different ways : a)improving irrigation facilities, b) promoting new technology and machineris, and upgrading seeds and c) developing new products such as sea-food, poultry and live-stocks. The improvement in agricultural production in Dongguan is important as a significant share of personal incomes come from agricultural outputs.

(4) Forward linkages

Forward linkages relate to the effects of foreign investment on its local customers (such as distributors, service agents, etc.) As all the products in processing/ assembling business must be returned to foreign investors (who are solely responsible for their sales in foreign markets), local commercial channels seem to be isolated from these foreign investment. Therefore, there is little forward linkages related to the marketing and sales of these

products.

(5) Backward linkages

Similarly, the backward linkages refer to the effects of foreign investment on its local suppliers (of raw mateials, parts, components, services, etc.). As seen in the study, the raw materials, machineries and equipments used in processing/assembling enterprises rely heavily on foreign supplies. As a result, they have little or even no stimulation on local suppliers. Their backward linkages are also insignificant to Dongguan as they are restricted by the nature of operation in processing/assembling activities. However, a somewhat similar backward linkage is observed in these activities, i.e. their impacts on the local construction industry. The processing/ assembling business has created a strong demand for factory sites, infrastructures and workers' hostels, which hence help to maintain a considerable growth of construction industry in Dongguan in recent years.

Besides the direct and indirect impacts, the demonstrating and transfer effects also deserve attentions. However, as there is no accurate measure on the assessment of these effects, the following discussion is somewhat conjectural.

Although the nature of processing/assembling business excludes the involvement of foreign investors in the internal management of the enterprise, staff from foreign investors are often invited to give a hand in

managing the production process or demonstrating the new techniques. Therefore, their presences indeed provide examples for local managers or skilled workers of the processing/assembling enterprise to follow. Moreover, as processing/assembling enterprises may be more efficient than the corresponding local ones, they are expected to serve as references for local enterprises, which hence improve their efficiencies when the demonstrating effects are effective.

The transfer effect by these processing/assembling business is, however, very much limited. As shown in the survey, the Chinese managers lack a will and also find very difficult to be independent from foreign participants (twenty-six out of thirty-four replies indicate this answer) Moreover, the senior and also the middle management staff are reluctant to move to other local enterprises in which their salaries are much lower. Therefore, the extent of the transfer effect by such processing/assembling business are very much restricted.

From the above discussion, it can be concluded that the direct impacts due to processing/assembling activities are more significant than the others. More words on the impacts relating to the problems in processing/ assembling activities are also discussed in Chapter 5.

Chapter IV

A Study of "Three Types of Foreign-Funded Ventures": Some Examples in Guangzhou Economic and Technological Development District (GETDD)

4.1 Overview

GETDD was established in December 1984, shortly after the opening of 14 coastal cities in May of the same year. The principal aim of establishing this zone is to introduce to China industrial items with advanced technology and know-how from foreign investors. Moreover, the zone was also emphasized to provide supports for reconstruction of the old and backward industries in the nearby opening city, Guangzhou. By these "three types of foreign-funded ventures" (referred later as "foreign-funded ventures"), it is expected that elements of advanced technology, embodied either in their products or in the imported machineries /equipments in their production process, can be transferred effectively.

GETDD covers a total area of 9.6 square km and spreads out on the east fringe of Huangpu district, Guangzhou, where the principal trunk of the Pearl River joins the north main channel of the Dongjiang River. According to its planning, the District was divided into six smaller sections of which the Guangqian Section (港前工業區) and Nanwei Section (南圍管理小區)

(of about 2.6 square km) were developed in the first phase. As the GETDD site was originally a sandy and swampy area (which requires a lot of earth-filling work in acquiring a solid foundation), more than 440 million RMB had been invested for the construction of infrastructure by the end of August, 1987. Indeed, the capital cost is now a heavy financial burden to the GETDD and will still remain as a difficult obstacle in future because more facilities and utilities (such as trunk roads, earth-filling work, water and power supply etc.) will be installed to meet the increasing demands in its later development.

The choice of Huangpu District as an appropriate site for establishing GETDD did in fact create a hot debate among local economists, government officials and other professionals in its preparation stage. Many of them questioned the appropriateness of the site as it involved a high fixed cost for construction of infrastructures. However, it was finally decided that its geographical advantages outweighed the infrastructure cost. The following paragraphs present a number of factors which were claimed to be attractive to foreign investment in Haungpu, the site chosen for GETDD. These factors are as follows:

(1) Location factor

The GETDD situates at a distance of 35 km from the centre of Guangzhou, 114 km from the Shenzhen SEZ and 88 nautical miles from Hong Kong. Also, its location is within a stone's throw from the Dongshan District of Guangzhou, a place noted for its concentration of universities and

research institutions. Its proximity to these places is believed to be attractive to foreign investors, particularly to "foreign-funded ventures" with very advanced technology.

(2) Good transportation

Transportation facilities (for both cargoes and passengers) are easily assessible or available at the GETDD. The Huangpu New Port of the District , the largest port in South China, can annually handle cargoes of 16 million metric tons now and will up to 27.5 million by 1990. The Dongjiang River and the Pearl River can also serve as a good navigation network for the District.

Good transportation is also provided by other infrastructures. The Guangshen Highway, the principal trunk road between Guangzhou and Shenzhen, provides a direct connection with the GETDD. Besides, railway service (to handle cargoes) is provided by a branch from Guangshen Railway which terminates at the Huangpu New Port. Finally, the Baiyuan International Airport in Guangzhou is at a distance of less than 50 km away from the GETDD and thus serves the District as the fastest alternative for both passengers and small cargoes.

(3) Power supply and other utilities

In its first stage, there are one electricity-generation plant and one water supply station in the District, providing the necessary supports for production process. Plans to increase the electricity power and water supply have been carried out to meet the future demands.

These include (i) expansion of the existing power generating plant in Huangpu District, (ii) participation in the new plant in Shajiao and (iii) expansion of the existing Dongjiang water-supply station.

Other utilities, such as telecommunication network and gas supply (including coal gas and petroleum gas, etc.) are also provided to improve its investment environment. An outstanding communication is guaranteed by an installation of a programmable control network of 1000 telephone lines, which allows direct dials to many international cities.

Although installations of these utilities incur heavy financial burdens, the improvements so made in its investment environment would prove attractive to foreign investors.

In order to encourage more foreign investment, there are a number of special policies and preferential treatments implemented in GETDD. The important ones are:

(a) income tax on the production enterprises with foreign investment is levied at a reduced rate of 15%. Those mentioned enterprises with an operation period of over five years (this period is much shorter than the 10 years in other development zones, see Section 2.4) will be exempted from income tax in the first two profit-making years and allowed a 50% reduction in the third to the fifth year.

(b) Foreign investors are exempted from tax payment when they remit abroad profits after paying their enterprises income tax.

(c) To encourage more exports, products for exports by

enterprises in GETDD are exempted from industrial and commercial consolidated tax.

(d) Imported machineries and equipments, raw and processed materials, spare parts and components and other necessary self-used materials etc. required for production are exempted from customs duties and industrial and commercial consolidated tax.

(e) To encourage reinvestment from foreign investors, a refund of the income tax (varies from 40% to 100% of the reinvested amount) for a period of over five years may be offered, if the profits are reinvested to establish or expand export enterprises or technologically advanced enterprises.

(f) An exemption of industrial and commercial consolidated tax if these "foreign-funded ventures" provide technological reconstruction to other Chinese enterprises or produce raw materials, spare parts and components for other enterprises in the GETDD.

(g) Products (except sugar, tobacco, alcoholic drinks and watches etc.) using Chinese raw materials and components are offered a 50% reduction in their industrial and commercial consolidated tax.

(h) Technology can be used as capital stocks (up to a maximum of 30% of the registered capital) in establishing the "foreign-funded ventures" in GETDD in order to encourage more technology transfer.

(i) "foreign-funded ventures" are allowed to trade their

foreign exchange reserves in the local foreign exchange trading centre. The mobility of foreign exchange facilitates these ventures to solve the problem of balance of income in foreign exchange and are indeed welcomed by most foreign investors.

4.2 Analysis of "Foreign-Funded Ventures" in GETDD

The GETDD has started to attract investment since mid 1984, when the formal approval from the State Council had not yet be available. Inland enterprises, as well as foreign investment, are encouraged to participate in the development process of the GETDD and also to serve as a bridge to promote technology transfer (inland production enterprises are given many favourable terms similar to those for foreign investment). By the end of September 1987, there were altogether fifty-seven (sixty by November 1987) "foreign-funded ventures" and 135 inland enterprises investing in the GETDD. However, the number of "productive" enterprises in these two categories are roughly the same: fourty-three for "foreign-funded ventures" and fourty-seven for inland enterprises.

Table 17 records the trend of contracts in "foreign-funded ventures" in the GETDD in the past few years. This trend is consistent with that of foreign direct investment in China during this period. However, it should be noted that the number of production enterprises has grown up since 1987. All the contracts signed in the period January to November of 1987 (a total of twenty contracts)

Table 17

Number of Contracts in "Foreign-Funded Ventures" in GETDD

(August 1984 --- November 1987)

Year	Number of Contracts Signed
Aug. -- Dec. 1984	4
1985	24
1986	12
Jan. -- Nov. 1987	20

Source : Monthly Report on New Foreign Direct Investment Items (Contracts), November 1987, Adminstrative Office, GETDD.

Table 18

Classification of Contracts in "Foreign-Funded Ventures" in GETDD by September 1987

Foreign-Funded Ventures		Number of Contracts Signed
(A) Productive:		44
(1) joint ventures	29	
(2) contractional joint ventures	14	
(3) wholly foreign-owned ventures	1	
(B) Non-productive:		13
(1) joint ventures	3	
(2) contractional joint ventures	10	
(3) wholly foreign-owned ventures	0	
Total		57

Source of data: Field work by the author in 1987 and 1988.

belonged to the "production enterprises" category. This reveals that the Adminstrative Office of the GETDD has emphasized its efforts in attracting foreign investment in "productive" items rather than in "non-productive" ones. Moreover, it should be pointed out that more than half of the total contracts in this period were signed in the first few months. The growth rate drops significantly afterwards (4 months with only one contract and two months with only two contracts). In fact, during an interview made in early 1988, one of the leaders in the Adminstrative Office of the GETDD frankly admitted that he was anxious about the ability of the GETDD in attracting more foreign investment in the future.

From Table 18, we see that the most common form of "foreign-funded ventures" in "productive" enterprise is joint ventures while that in the "non-productive" category is contractional joint venture. Wholly foreign-owned enterprises are very rarely found in both categories. This is easily understood as it is too risky for foreign investors to be the sole owner of any enterprise in such a new open zone.

Among all the sixty "foreign-funded ventures", Hong Kong again is the most important source in providing funds for the GETDD. There are altogether fifty contracts from Hong Kong, two from Macau, United Kingdom and United States of America respectively and also one from Australia, Singapore, Canada and Italy respectively. Chinese officials

are anxious about whether advanced technology can be introduced by these enterprises as Hong Kong investors are dominant in the GETDD.

The pledged amount of capital in the "foreign-funded ventures" of the GETDD had a total sum of RMB 497.67 million dollars (which contains 117.12 million U.S. dollars) by the end of September in 1987. Nearly 90% of this amount are planned to utilize in the "productive" enterprises. This high ratio (compared to other opening zones in Guangdong province) may be accounted for by the fact that the demand for foreign investment in "non-productive" enterprises, such has hotels, food and catering services, etc., are not large as the GETDD (in the first development phase) can only maintain a small population. Moreover, among the total investment amount (i.e. RMB 497.67 million), the foreign investors contributed about 48.6%, while the remaining amounts are provided by inland enterprises and the Adminstrative Office of the GETDD. Also, foreign exchanges used in these investments are not only supplied by foreign investors. Instead, the Chinese counterparts have provided a significant ratio (about 45%) of the total fóreign exchange.

Table 19 records the pledged amount of foreign capital in the "foreign-funded ventures" in the GETDD. Most investors only commit a total investment of less than U.S.$ 1,000,000, whereas only two of them commit more than U.S.$ 5,000,000. As in processing/assembling business, the pledged foreign investment in the "foreign-funded ventures" is usuallly in the form of imported machineries and equipments.

Table 19

Pledged Amount of Foreign Investment in "Foreign-Funded Ventures" in GETDD by November 1987

Pledged Amount (ten thousand US$)	Number of Ventures
50 or below	33
50 --- 100	10
100 --- 150	3
150 --- 200	2
200 --- 250	3
250 --- 300	1
300 --- 350	2
350 --- 400	2
400 --- 450	1
450 --- 500	1
500 or above	2

Source : Monthly Report on New Foreign Direct Investment Items (Contracts), November 1987, Adminstrative Office, GETDD.

Table 20

Ratio of Foreign Capital in Total Investment of "Foreign-Funded Ventures" in GETDD by November 1987

Ratio of Foreign Capital in Total Investment	Number of Ventures
Above 75%	28
50% --- 75%	0
25% --- 50%	22
25% or below	10

Source : Monthly Report on New Foreign Direct Investment Items (Contracts), November 1987, Adminstrative Office, GETDD.

The figures in Table 19 seem to suggest that most enterprises are unlikely to adopt very advanced technology in their production process (although about 28% of the total productive items are classified as technologically advanced by the end of August 1987, see "Few Suggestions On Technology Development", Adminstrative Office, GETDD, October 1987).

Although there is only one wholly foreign-owned enterprise among these "foreign-funded ventures", the number of enterprises with more than 75% foreign capital participation is unexpectedly large. From Table 20, we see that nearly half of the total "foreign-funded ventures" have a ratio of more than 75% of foreign capital in the total amount of investment, while the others have less than 50%. This ratio is somewhat important in discussing the effectiveness of technology transfer by foreign investment as foreign investors tend to adopt more elements of advanced technology if they have a dominant control in the production. From Table 20, it seems that some of the 28 ventures (with more than 75% foreign capital in their investment) will facilitate transfer of comparatively advanced technology. Moreover, it should be noted that the recent contracts (by November 1987) indicate a drop of the ratio of foreign capital in the total investment of these ventures. More than 70% of the last 15 contracts by the end of November 1987 have a ratio of less than 50%. This trend should be given more consideration as it definitely affects

the effectiveness of technology transfer.

Another interesting point worth noting is the type of business in which foreign investment are concentrated. There were a good variety of business among the sixty foreign investments by the end of November 1987. Table 21 gives a brief classification on the types of business that are included in these investments. Although the common and traditional items of foreign investment in China (such as toys, textiles, costumes and foodstuff, etc.) are still included, there exists some advanced items on industries of new materials, biomedical engineering, electronics and foodstuff, etc., in these contracts. By the end of August 1987, the total investment on these advanced items amounted a total of 285.84 million RMB (containing foreign exchange equals to U.S.$ 44.22 million), approximately 55.8% of the total amount in all production entereprises. The two outstanding examples of "foreign-funded ventures", Metal Container Co. Ltd. (for production of metal cans) and Guangzhou Pacific Biomedical Products Limited (for production of artificial cardiac membranes), have already adopted very advanced technologies (late 80's) for their production.

The duration of contracts is important in assessing the impacts of these "foreign-funded ventures". In fact, foreign investors may be reluctant to introduce any element of advanced technology in their production process if the contract only allows a short cooperation period. From Table 22, it can be seen that more than half of the

Table 21

Classification of "Foreign-Funded Ventures" in GETDD by trade by November 1987

Trade	Total Number
Transport Services	10
Foodstuff	4
Trading	3
Oil Services	3
Metal Products	9
Construction Materials	2
Textiles and Costumes	6
Furnitures	2
Plastics	3
Paper and Paper Products	3
Electronics	2
Biomedical and Medical Products	3
Toys	1
Chemicals	1
Others	8

Source : Monthly Report on New Foreign Direct Investment Items (Contracts), November 1987, Adminstrative Office, GETDD.

Table 22

Duration of Contracts of "Foreign-Funded Ventures" in GETDD by November 1987

Duration	Number of Ventures
5 years or below	12
6 --- 10 years	22
11 --- 15 years	22
16 --- 20 years	3
above 20 years	1

Source : Monthly Report on New Foreign Direct Investment Items (Contracts), November 1987, Adminstrative Office, GETDD.

"foreign-funded ventures" are allowed to have an operating period of less than ten years which is too short to get a reasonable return if the foreign investors employ advanced technology. A significant ratio (more than one-third), on the other hand, has an operating period between eleven to fifteen years. This duration is indeed sufficiently long to provide economic incentive for the introduction of advanced technology. For instance, the two outstanding examples given in the above paragraph have contracts covering a period of fifteen years. Finally, the reasons for contracts with more than fifteen years (4 in Table 22) are not clearly known. They probably relate with other personal factors rather than providing incentives for absorption advanced technology (as some of these four ventures like textile production and furniture making do not employ very advanced technology in their production).

4.3 Impacts of "Foreign-funded Ventures" in GETDD

Although there are more than sixty contracts approved by now, the actual number in normal operation is far below sixty. Many enterprises, particularly those "productive" enterprises, are in the preparation stage and will operate normally in one or two years. Therefore, it is not expected to be conclusive and ultimate when the followings discuss the performances and impacts of "foreign-funded ventures" in this stage. However, the discussion in this Section is still somewhat meaningful as it will give us

some preliminary conclusions and help us to spot out the problems, if there happens any, for further improvements.

The materials for the following discussion are mainly from (i) researches from local institutions, (ii) field visits and interviews with local administrative staffs and enterprises superintendents and (iii) a mailed questionnaire to sixty "foreign-funded ventures". Even though a lot of efforts have been paid, it should be admitted that some of the following discussions may be conjectural as :

(a) the Administrative Office is very sensitive to my study. Hence, it is not very cooperative and rejected my requests on information about the performances of "foreign-funded ventures" in GETDD. Also, it did not agree to provide any support in my study when I proposed to gather information by questionnaires.

(b) there are only ten replies on my mailed questionnaire of which four enterprises are in preparation stage. In case of no official support, this return rate can be said to be acceptable. Discussions on their impacts are supplemented by a few field visits and other local researches.

Although it faces many limitations, the following discussion will in no doubt reveal important ideas on these "foreign-funded ventures". As in Chapter III, the impacts are explored in three different ways : (1) direct effects, (2) indirect or linkage effects and (3) demonstration and transfer effects. The direct effects of these "foreign-funded ventures" are easily identified and hence discussed

first. These include :

(1) Employment generation

The employment opportunities are of course provided by the establishment of new enterprises in China. However, in the case of production enterprises of GETDD, the employment generation effect is small. By September 1987, there were altogether 997 jobs generated in all "foreign-funded ventures". Most of these ventures employ less than 100 workers. The small employment generating effect by each enterprise may be probably due to the following reasons : (a) the GETDD is at an infant stage and hence most foreign investors do not commit themselves to expand production, and (b) some "foreign-funded ventures" adopt advanced technology and raise the degree of automation in their production process. This will then reduce the total employment level in these ventures. In the Metal Container Co. Ltd., for example, each assembly line (altogether three) of 80's technology level employs only twenty-seven workers per session.

(2) Introduction of machineries and equipments

From replies of the returned questionnaires, over 90% of the machineries and equipments employed are imported from foreign investors. The introduction of these machineries does in fact assist GETDD to establish new industries (such as metal containers, artificial cardic membranes and new foodstuffs, etc.). Moreover, there exis other foreign investment in the traditional and common items

such as costumes, textiles and toys. It is clear that introduction of machineries and equipments in these items will hence expand the industrial basis of the GETDD.

(3) Technology transfer

From the returned questionnaires, it is found that over 85% of the technologies employed in the production process of all studied ventures are mainly improted by foreign investors (over 80% of foreign-funded ventures are from Hong Kong). The role of foreign investors is undoubtedly important in providing the necessary technology for the normal operation of these "foreign-funded ventures".

The GETDD is basically established for transferring advanced technology for local usage. Apart from the preferential treatments (described in Section 4.1), the main strategy adopted in attracting advanced technology in GETDD is the so-called "exchange technology by market" (以市場換技術). The idea of this strategy is to allow domestic sales of products from "foreign-funded ventures" up to a certain pre-determined ratio, if the foreign investors are willing to employ advanced technology in their production.

In the past years, the GETDD has successfully attracted some investment of very advanced technology by this strategy, although the ratio is still not dominant. However, the effectiveness of this strategy is often questioned by local economists as the key element of these transferred technologies is always in the hands of foreign investors. Moreover, in many economists' studies, it is very

often found that those foreign investors with advanced technology embodied in the production process prefer to be the sole owner of the enterprise. The lack of wholly foreign-owned enterprises in GETDD may somewhat link with the limited introduction of very advanced technology by foreign participants in the past years[1]. (The empirical evidences of this proposition are found in (Leung, 1987)).

The extent of technology transfer is very much affected by the qualities of labors, which are far below standard. The lack of good quality labors and skilful technicians and also the emphasis of common labor works (revealed in the returned questionnaires) cast doubts on the effectiveness of technology transfer and even the possibility of transfer of Hi-Tech.

The effectiveness of technology transfer is also affected by the research and development (R & D) efforts paid in the "foreign-funded ventures". From replies of the questionnaires, more than half of them indicate that they have engaged in R & D works. The scale of these R & D efforts is, however, very limited. Their replies reveal that

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1 The above discussion does not imply that the wholly-foreign venture is the most suitable one among all forms of direct foreign investment in regarding to the effect of technology transfer. In fact, it deals nothing with the transfer of disembodied technologies. Joint ventures or contractual joint ventures, on the other hand, are effective in absorption and diffusion of both embodied and disembodied technologies, although the embodied ones here are usually standard and mature. Hence, there is always a trade off between the nature and the rate of absorption (or diffusion) of technologies when the policy makers decide to emphasize one.

a very limited amount of funds (no enterprise has the amount greater than HK $ 300,000) and a small number of staff (about three to five persons) are involved in the R & D works. In fact, the R & D works only emphasize on new product design and improvement of foreign technology, which are aimed to adapt these foreign introductions to local conditions. Hence, further improvements and progresses in the technology employed are very much restricted by their half-hearted commitment. In viewing of these limited efforts, the effectiveness of transfers of advanced technology is questioned.

(4) Income generation

Many "foreign-funded ventures" in GETDD have made profits in the first few years of operation. The number of profit-making "foreign-funded ventures" is quite satisfactory when compared to other places in Guangdong (In Foshan, for example, there were 42% of the total "foreign-funded ventures" at loss during their operations in 1987[2]). According to the practice of "foreign-funded ventures", part of the generated profits are received by local parties, which then provide funds for further absorption of advanced technology in their future development. In fact, the Administrative Office of GETDD has already recognised the need of attracting more items of standard technology and traditional sectors in order to generate more income within

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2 see Guangdong Foreign Economic Relations & Trade, Vol 4, 1987, p.5.

a short period since 1986. The lack of funds and the heavy financial burdens during the establishment of GETDD have compelled it to emphasize the income generation effect rather than the transfer of advanced technology.

Although the figure of total income generation in GETDD is not available, we can estimate this effect by noting the value of the net industrial production (which equals to the difference between the gross industrial product and the depreciate value) of these "foreign-funded ventures". According to local statistics, the net output by these ventures was 6.04 million RMB in 1986 and 8.58 million for the first nine months of 1987. While the average income generation effect of a "foreign-funded venture" is appreciable, it is doubted, however, that it can even cover the expenses incurred in the construction of infra-structure during its establishment (more than 440 million RMB by mid-1987).

The income in foreign exchange is important in "foreign-funded ventures" as most of these ventures in Guangdong province cannot balance their income in foreign exchange[3]. In GETDD, the average ratio of the products exported from "foreign-funded ventures" was above 55% in 1986. It was learnt in a field interview that most of the production "foreign-funded ventures" can generate a net income in foreign exchange in 1987. For "non-productive"

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3 see Guangdong Foreign Economic Relations & Trade, Vol 4, 1987, p.5.

enterprises, the income is foreign exchange is balanced through foreign exchange trading centre (a note about its operation is found in Chapter III). The generated income in foreign exchange is indeed so important that it provide the precious foreign exchange for future introduction of other advanced technology.

Besides the direct impacts, the linked effects or the indirect impacts of "foreign-funded ventures" in GETDD should not be overlooked. However, as said before, the linked effects are not obvious and hence difficult to assess directly. But it is hoped that the following discussions will give us some idea on these linked effects.

(1) Forward linkages

Due to the "exchange technology by market" strategy, products from "foreign-funded ventures" are allowed to share the Chinese market. The ratio of internal sales is about 30-50%, depending on the degree of sophistication in the imported technology and the problem of balance of income in foreign exchange. (The more advanced the technology and also the less severe the problem of balance of income in foreign exchange is, the higher the ratio of internal sales it enjoys). The policy of allowing internal sales creats widespread connections between "foreign-funded ventures" and local customers (such as distributors, service agents, etc.,) and hence promote development in the service and commercial sectors of local economy. Indirect employment is therefore generated by such

forward linkages, although it is very difficult to observe the actual figure. Other effects such as income generation are also expected to be induced by the forward linkages of these "foreign-funded ventures" in the commercial and service sectors of the local economy.

While the effects of forward linkages are appreciated on one hand, the possibility of immizerising investment due to internal sales should not be neglected on the other hand. However, the Chinese enterprises are not usually aware of this possibility. Therefore, it must be borne in mind that shadow prices of each factor (which can be obtained by policy makers, who have access to the cost statements of the production process) in "foreign-funded ventures" should be used in order to have a more accurate calculation on the impacts of internal sales by foreign investors.

(2) Backward linkages

From the returned questionnaires, all "productive" enterprises indicate that they import a great majority of raw materials, spare components and parts from foreign suppliers in their production process. Local suppliers of these items seem to be isolated from foreign investment, although tax preferential treatments have already been offered to encourage uses of local supplies in the "foreign-funded ventures". The lack of these backward linkages in most ventures is probably due to (a) the qualities of local supplies of raw materials, spare parts and components are far below standard and (b) the delivery of local supplies is

very unreliable. On the other hand, however, some backward linkages are observed in a few industries (such as food-processing or foodstuff industries, etc.,) in GETDD. The establishment of these industries provides great opportunities for suppliers of these items (such as poultry or livestock) to grow and develop. These backward linkages, like the forward ones, can generate indirect employment and also income in the domestic economy.

Besides the direct and indirect impacts, the demonstrating effects by the introduction of "foreign-funded ventures" should be noticed. The most important one among all demonstrating effects is the exposure of the Chinese cadres to modern management and international practices : upon the opening in 1979, China is lack of professionals in its foreign economic and trade affairs. The establishment of "foreign-funded ventures" will provide China opportunities to build up a team of high quality personnels in engaging international business. In fact, it is more effective for the Chinese personnels to get acquianted with international business practice in a "foreign-funded venture" of GETDD than other means (such as a short-term course or in a foreign trip). Moreover, until early 1988, the Director in a joint venture (or a contractual joint venture) must be assigned by the Chinese participant. This arrangement is believed to facilitate transfer of foreign management experiences to local cadres. The effectiveness of the transfer of modern management experiences in GETDD is by all

means very difficult to assess as there exists no good measure on this item. However, during an interview with an official in GETDD, it was learnt that the Chinese insistence to hold the Director post in joint ventures is found to have no guarantee on an effective transfer of modern management experiences to local cadres (because the assignment of such Director is mostly based on the seniority in the CCP rather than the capabilities of the candidates). Therefore, when we discuss the impacts of "foreign-funded ventures" on these items, the probable conclusion is : the introduction of these ventures provides chances of exposures to modern management but give no concrete guarantee on its effectiveness.

Moreover, as inland enterprises are encouraged to establish plants in the GETDD, their operations are easily comparable to the foreign counterparts. "Foreign-funded ventures", especially those with advanced technology and management experiences, may give a good example and an excellent demonstration in their daily operations for the inland enterprises to follow and therefore improve their production efficiency.

To encoruage more foreign investment, GETDD. is allowed to employ a more aggressive attitude towards economic reform. Innovations in economic structure and system of GETDD have been served as a testing ground for further economic reform. According to local officials, the new experiences (including an independent trade system, establishment of foreign exchange trading centres and the

seperation between government and enterprises, etc.) undergone in GETDD are expected to have deomonstrating effects on other open zones and may further stimulate the reforms of the old and obsolete systems in China.

The above discussions have come across different aspects of impacts by the "foreign-funded ventures" in GETDD. More words on the impacts relating to the problems of introduction of these ventures, together with some field experiences in Dongguan county, are also explored in the next chapter.

Chapter V

Problems of Utilization of Foreign Direct Investment in Processing/Assembling Activities and the "Three Types of Foreign-Funded Ventures" in China

5.1 Introduction

As discussed in Chapter two, many significant improvements on the investment environment of China have been made since the announcement of the Twenty-Two Articles in October 1986. However, it is a great surprise to the Chinese leaders and economists that foreign investments in the year 1986-88 were far below their expectation. (It should be reminded that the unpredictable downfall of the Chief Secretary, Hu Yaobong, in January 1987 caused a severe confidence-crisis on the continuity of economic reform and the Chinese open-door policy. Hence, this political crisis greatly hurt the motivation and intention of foreign investment in the first half year of 1987, even though favourable measures were subsequently announced after October 1986). In 1987, the number of new contracts pledged by foreign investors was only 2230[1] (this number includes all foreign direct investment). Although this figure increased more than 33% when compared to that in 1986, it is very much below that in 1985 (a total of 3073 contracts). The pledged amount of foreign direct investment in 1987 was also below expectation. It recorded only 3.68 billion U. S.

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[1] see Ming Pao Daily, March 26, 1988, p. 38.

dollars, about 10% increase from 1986 but was just slightly over half of the pledged amount in 1985. Moreover, the Beijing authority was disappointed by the qualities of forign direct investment in the past year. Most of these new investment items are of small or medium scales, which emphasize mainly on processing/assembling activities rather than items of high-technology products.

Although the apparent improvements in the investment environment since October 1986 have successfully stopped a further retreat of foreign investors, their effectivenes in attracting foreign direct investment as well as more advanced technology items are doubted. The figures released by the Ministry of Foreign Economic Relations and Trade in China casted further doubts on the effectiveness of these measures in encouraging foreign investments. According to these figures, only one-third of the actually operated enterprises (among about a total of 4000 foreign-participated enterprises) made profits in the past years. Among these profit-making projects, a number of them are "non-productive" items such as hotels and catering services. Moreover, the Ministry of Foreign Economic Relations and Trade further pointed out that the actual utilized amount of foreign capital in each year was approximately about half of the pledged amount. Many foreign investors, who have shown intentions to participate in some investment projects, failed to realize their committment. Until 1987, more than half of the 10,000 approved foreign enterprises have not yet

started their business.

Although more than 50% of the pledged foreign enterprises have not started their business by 1987, the average rate of carrying out the contracts in processing/assembling activities and compensation trade is much higher than that in the "three types of foreign-funded ventures". For example, from the statistics of Guangdong province in the period 1979-1986, the ratios of the actual utilized amount of foreign capital to the pledged amount were respectively 70% for compensation trade, 56% for processing/assembling business, 41% for joint ventures and 21.6% for contractual joint ventures[2]. The variations of these ratios are probably due to complications involved in the Sino-foreign cooperations in the "foreign-funded ventures".

The below-expected performances, in terms of both quantity and quality, of the foreign-investment (as revealed above) in the Chinese new economic take-off have undoubtedly aroused attention on the problems and also remedies of the measures in utilization of foreign investment. Based on the results of the survey done in Dongguan and GETDD, we shall try to highlight the problems of foreign investment in processing/assembling activities in Section 5.2 and those in the "three types of foreign-funded ventures" in Section 5.3. The discussions in both sections are also supplemented by other sources, aiming at providing a comprehensive picture on this topic.

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2 see Guangdong Foreign Economic Relations and Trade, Vol 4, 1987, p.18.

5.2 Problems of Utilization of Foreign Investment in Processing/Assembling Activities

Processing/assembling activities have existed for more than eight years in the Chinese new economic history, thus abundant experience has been accumulated and a fruitful discussion can be made. However, as marked differences exist in different regions of China, only the most representative problems are presented in the following paragraphs. During the discussion, references to the case of Dongguan in the study are often mentioned. These problems include:

(a) Over-reliance on Hong Kong investors:

As discussed in Chapter III, the normal operations of enterprises in processing/assembling activities depend heavily on foreign investors (or Hong Kong investors in specific). This over-reliance of the Chinese processing/assembling activities on Hong Kong may cause a large fluctuation in its development process if there occurs an economic shock or recession. (In fact, Hong Kong is such a small and open economy that she is easily affected by external shocks). For instance, in early 1988 Hong Kong had a slow economic growth (after the worldwide stock market crisis in October 1987) and for the first quarter of the same year, statisical figures revealed a drastic fall in the processing/assembling activities in Guangdong, namely, a drop of 51.1% in the number of new contracts signed, 24.2% in the pledged amount and 55.1% in the actual utilized

amount of foreign capital[3]. Of course, such a large fluctuation in the absorption of foreign investment in processing/assembling activities may cause much waste and economic loss to China because many local leaders simply developed an optimistic expectation from the drastic growth of these activities in the past few years and hence have committed the construction of many factory sites and other infrastructures for accomodation of more investment in this year.

(b) Lack of sufficient production orders and reliable supplies of raw materials

A significant number of responses (fourteen out of thirty-four) in the conducted survey revealed that they had insufficient orders from foreign investors to maintain their normal production last year. The lacking of sufficient and reliable supplies of raw materials is another common (ten out of thirty-four) problem in Dongguan. Very often, the enterprises have to interrupt their normal production and suspend their production plans for at least a few days. The existence of these problems suggest that the enterprises even have to struggle for a mere survival and can thus unlikely spare their energies and money for absorbing and developing the imported technology for their own use.

(c) Lack of independence

Previous discussions in Chapter III clearly pointed out that the imported equipments and machineries, as

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3 Hong Kong Economic Times, May 18, 1988.

well as the technologies, in processing/assembling business have an undeniable role in providing a basis for local industrial development. However, it seems very unlikely that these processing/assembling enterprises will and also can run the business on their own after their contracts terminate. From the results of the survey conducted, we find that twenty-six out of thirty-four enterprises intend to continue their contracts upon expiration (only two do not want to cooperate with foreign investors after contracts expire). Hence, it is clear that these enterprises lack a strong will to operate independently in the production process. Indeed, there exist many insurmountable difficulties even if they are allowed to operate on their own. They rely too much on the imported technologies but it is very difficult to develop their own as they do not emphasize research and development efforts. Also, there is a lack of export markets, sales channels and foreign reserves (to import raw materials, spare parts and components of machineries and equipments). Furthermore, there exist no governmental policy or special measures to provide incentives to these enterprises for independent operation. By now, earning foreign exchange is still considered to be a very important role in processing/assembling business and cooperations with foreign investors would undoubtedly guarantee a reliable income of foreign exchange. Therefore, it can be concluded that owing to (i) the lack of a strong will to operate independently, (ii) the incapabilities to

operate independently and (iii) the lack of incentives for independent operation in processing/assembling business, the goals of "conversion of foreign technology for our own use" (為我所用) and "being workers before being employers" (先當工人後當老板) are unlikely to be achieved in the forseeable future.

(d) Taxation burden discouraging technology transfer

The currently adopted taxation policy in processing/assembling business allows a taxation holiday of three years to the enterprises which are then subjected to different kinds of taxes such as industrial and commercial consolidated tax and also income tax. In order to evade taxes, the enterprises in Dongguan try to extend the taxation holiday by the following means : (i) To terminate the contract after three years of operation and sign a new one to capture another three-year taxation holiday. In doing this, they only need to adopt a new name for the enterprise in the new contract. (ii) Instead of signing a new contract, the enterprise chooses to be a "foreign-funded venture" which is usually allowed to enjoy a longer taxation holiday according to present practices. However, this is quite uncommon (only two responses in the survey showed strong intention to adopt this method) as it requires a more complicated procedure in getting approval for becoming a "foreign-funded venture" and it also demands much money from local participants. (iii) Foreign investors involved in these business, particularly those in Dongguan (twenty-seven

out of thirty-four enterprises), usually establish connections with more than one local enterprises in the opening zone. As a consequence, a longer taxation holiday may be achieved if they shift most of their production process from one enterprise to another when the taxation holiday of this enterprise ends. (The lack of sufficient production orders in some of the studied enterprises may be correlated with these short-run behaviours of foreign investors. However, the study done does not provide a direct evidence and a more detailed examination is required before a final conclusion can be made).

All these efforts made by both the local enterprises and foreign investors in trying to reduce the taxation burden show that exhaustion of short-run profit-making opportunities rather than long-term consideration for developing the enterprise is emphasized . If foreign investors decide to shift their production process from one enterprise to another in response to the taxation burden, they will not expected to pay much attention to the depreciations, repairings, proper maintainances and constant upgrading of the imported machineries or equipments. Needless to say, this will cause adverse effects on the effectiveness of technology tranfers.

(e) Low profit margin

It is not unusual that enterprises involved in processing/assembling business enjoy low profit margin even when they can operate in normal conditions (i.e. sufficient processing orders and reliable supplies of raw materials).

Some enterprises in my study, particularly those in the costume industry, complained about their low profits in the past few years. In fact, the keen competition among all the local enterprises in Dongguan and also in the opening zones has exerted a strong pressure on any kind of effort from increasing the processing fees to capture more profits. In Dongguan, for example, its leading position in utilizing foreign capital in processing/assembling business is being challenged by Boaon county where a very outstanding growth rate (due to its more favourable location) was attained in 1987. Although some local leaders advocate to adopt a standard scheme in order to explore the opportunities for increasing processing fees, this is unrealistic and not widely supported because it will then be very difficult for many other local leaders (especially those at a long distance from Hong Kong and coastal region) to attract foreign investment.

Another reason for the low profit margin is that processing fees, which are income in foreign currency, received in the business are required to be exchanged at an official rate with the Bank of China. This administration procedure obviously reduces a sizable portion of their income, which can be derived from the "rent" of their foreign exchange income in processing fees. Although local measures in Dongguan already allow a higher official rate to these processing/assembling enterprises, there still exists a wide gap below the true or "black" market rate. This low

profit margin probably linked with the drastic decline of the processing/assembling business (in terms of the total number of new contracts, the total pledged amount of foreign capital and the actual utilized amount of foreign capital) in Guangdong province since 1986 (Table 4). In Foshan, for example, the processing/assembling activities have dropped significantly since 1985 because a number of these enterprises end their participation. They usually become: (i) affliated production sites with the local foreign trade companies, which can offer subsidies to them; (ii) "foreign-funded ventures" which are allowed to share the local markets and hence increase the profit margin by internal sales (such examples are found in the clothing industry in Dongguan) and (iii) wholly-Chinese enterprises, which produce only for local markets. Although there have been different voices requesting more subsidies for processing/assembling enterprises, it is learnt that due to strong resistance from financial branches, no subsidy of any kind will be offered in a resonably long period in future [4].

The low profit margin of the processing/assembling enterprises has aroused attentions from provincial leaders for a few years. Of course, this low profit magin discourages a further utilization of foreign capital in processing/assembling business and hence reduces their direct and indirect impacts. However, as discussed above, it

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4 see "The downfall of processing/assembling business in Foshan", Wen Wei Po, January 5, 1988.

is unlikely to offer an effective and efficient solution to improve this situation in the near future.

(f) Labour shortage and low quality of labour

In Chapter III, we see that processing/assembling activities have generated a significant number of employment opportunities in Dongguan and also along the coastal region. Although an abundant hidden unemployment still exists in China, labour shortage occurs in some rapidly developing areas of the opening zones. In Dongguan, for example, local labours are not easily available especially in the low profit-making industries (such as costume industry). From the survey, we know that most enterprises (about eighteen out of thirty-two) employed labours who migrated from neighbouring counties or even other inland provinces for more than 50% (some up to 95%) of the total employment. In fact, the problem of labour shortage in Dongguan is not an unusual exception in the opening zones and may be understandable in rapidly developing economies in which many other employment opportunities are available to local inhabitants. This problem may exert a strong pressure to drive up the labour wage and indirectly the enterprises may be forced to employ workers of low quality.

While the labour shortage problem tends to raise the wage on one hand, the low profit margin of the processing/assembling enterprises (particularly those in the costume industries), on the other hand, only allows a small room for wage increments. To maintain their "normal" profit, most enterprises (in case of Dongguan) then employ a

significant ratio of migrant workers[5], who usually demand a much cheaper wage for competing with local inhabitants. In fact, the migrant workers from inland and poor regions gradually become the main source of the total labour employment of many processing/assembling enterprises in some rapidly developing economies. However, most of these migrant workers are unskilled and poorly educated (as indicated from the survey). Their poor qualities, especially their low learning capabilities and potentials, will certainly have a detrimental effect on the effectiveness of technology transfer. Moreover, the education level of the managers in these enterprises is far below expection (discussed in Chapter III). Sometimes they are unable to assess the qualities of the imported equipments and machineries correctly. Obsolete or out-dated models are not rarely found in these enterprises.

A number of enterprises (ten out of thirty-four in the study) indicated that fifty or more employees (in the range of 12.5% -- 50% of the total employment) quit their jobs last year. The substantial labour mobility observed in Dongguan (or probably other rapidly developing zone) would increase the difficulties in internal management and also the absorption of foreign technology.

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5 similar foundings are observed in the Changping town of Dongguan county, see "Export-led rural industrialization: the case of Dongguan in the Pearl River Delta in China", James K.S.Kung and Thomas M.H.Chan,a paper presented at the Conference "Chinese Cities in Asian Context", held at University of Hong Kong, 1987.

(g) Smuggling and other illegal activities

It was learnt from my field interviews in Dongguan that there were occasionally reports of smuggling activities in some processing/assembling enterprises, which make use of their foreign connection to understate the total imports of raw materials and hence capture additional profits by reselling these materials to other Chinese enterprises. Additionally, illegal activities such as understatement of unit processing fee and private exchange of foreign currency are sometimes found. In Dongguan, for example, there were altogether nineteen reports of the above-mentioned activities in 1987. Of course, the effects of smuggling (or illegal activities) may in some cases be welfare improving although they always are nuisances to policy-makers. In China's context, however, these activities may be considered as undesirable because (i) they reduce the tax revenues of the government and (ii) the widespread of such activities may drive the Chinese leaders to make restrictive and cumbersome amendments to the current open door policy.

(h) The status of private participation

It is noteworthy that there is a considerable extent of private participation in processing/assembling acitivities of Dongguan in the recent years. At present, it is estimated that about five hundred (approximately 20%) enterprises have some sort of private participation (although the name used is still the collective unit[6]).

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6 Hong Kong Economic Times, May 24, 1988, p.3.

Thus, these privately-operated enterprises play an noticeable role in the absorption of foreign capital[7] because they are more flexible in operation. Moreover, the managers of these "private" enterprise would have a strong motivation to improve their operating efficiency and absorb and innovate the imported technology (which hence save economic resources) as their incomes are directly related with the net profits.

Regardless of this, however, private participation is in fact not formally approved under the current open-door policy. They are allowed to operate in Dongguan just because the cadres there are open-minded enough to undertake different local measures to facilitate absorption of foreign capital. Even with these measures, there were altogether just thirty-two (of which twenty-four in Shilong) private enterprises registered officially (this was learnt from an interview with a chief official in Shilong in March 1988).

Needless to say, the absence of a legal status greatly restrict the development and therefore the achievements of private participation in absorbing foreign capital. Indeed, as there does not exist any formal articles or statements stating the inclusion of private participation in processing/assembling business, they are not allowed to enjoy the current favourable measures, namely, a three-year

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7 It is estimated that about 7% of the total processing fees are come from the enterprises with some sort of private participation, see Hong Kong Economic Times, May 24, 1988, p.3.

taxation holiday and a 15% reserve of the total foreign-currency income. Moreover, owing to (i) the traditional attitude of the Chinese Communist Party towards private enterprises and also (ii) the involvement of some such enterprises in smuggling and other illegal activities, the development of these enterprises are suppressed, for instance, in Shilong. This may be seen from the fact that a majority of these private enterprises there are of small scale and always have insufficient production orders for normal operation. In fact, private participation in processing/assembling business are under strict and unfavourable controls and they are thus unlikely to make a marked progress in the near future[8].

(i) Lack of foreign market information

Many superintendents of the processing/assembling enterprises are found to be lack of information about the international markets and also have limited knowledge about the progress in their utilized technology. In fact, it is learnt from an official of Dongguan that some enterprises assume an economic loss by importing obsolete machineries, which either cannot be operated without the supports of foreign investors or are overvalued by foreign participants. Moreover, the enterprises have no idea about the price of

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8 An official of the State Council recently informs the reporters that an article (may be named as "Provisional Regulations on Private Enterprises") will be promulgated in the near future to encourage private participation in utilization of foreign capital. However, the real effect will only be clear after the actual articles are released. See Wen Wei Po, June 13, 1988, p.1.

their products and hence their processing contributions may be undervalued. During my field visits, some enterprises complaint that they were exploited by foreign investors who, with more market information, are at a stronger bargaining position in negotiating the processing fees.

The autonomy of local managers are also limited as it is very difficult, though not impossible, for them to have a chance to visit foreign countries (even for the business sake). Also, although there have been strong voices in Dongguan, processing/assembling business are prohibited to establish subsidiaries or promotion centres overseas. Such restriction hinders them from promoting their images and further absorbing foreign capital. Due to limited channels of information, these enterprises, though expected to be export-oriented, are usually unable to react swiftly to any changes in foreign market. Their blunt reactions will probably limit their developing potentials and also their opportunities to operate independently in the future.

(j) Introduction of polluted industries

There are regulations to prohibit the introduction of polluted industries, but the emphasis on more export earnings may indeed urge some cadres not to exercise these selection criteria. Although the extent of the pollutions caused is not exactly known so far, the propositon that pollutions are imported may be supported by the fact that polluting industries, such as the dyeing industry, gradually disappear in Hong Kong but reappear in the Pearl River

Delta. Of course, the degree of pollution suffered by each region differs with their geographic, climatic and ecological characteristics and therefore it may not be correct to conclude that these polluting industries are very harmful in the Pearl River Delta. Nevertheless, the economic cost of these short-sighted behaviours in attracting foreign capital may ultimately outweigh their derived benefits if they are out of control.

5.3 Problems of Utilization of Foreign Investment in the "Three Types of Foreign-funded Ventures"

"Foreign-funded ventures" were the most important forms of foreign direct investment in the past few years. Although their impacts are notable, their performances are still far below the Chinese authority's expectation. Thus, more attention should be paid to the problems existing in the current practices. With particular references to the study in GETDD (where applicable), the following paragraphs aim at exploring some noteworthy experiences since the Chinese new opening in 1979.

(a) Complicated application procedures

It is well-known that getting an approval to invest in the form of "foreign-funded ventures" is a time and money consuming task. The most pronounced example is a contract with more than 130 seals[9]. The complicated procedures involved hence threaten many small and medium

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9 see Wen Wei Po, Hong Kong, April 2, 1988, p.2.

size investors from countries other than Hong Kong and Macau. In GETDD, however, the application procedures are somewhat simplified (although still complicated when compared to Hong Kong) as its Administrative Office is granted a greater autonomy in approving foreign investment.

(b) Imbalance of income in foreign currency

The shortage of foreign exchange in China leads to the promulgation of strict restrictions on "foreign-funded ventures" that they are required to balance the foreign exchange themselves. However, up to now, it is common that these enterprises have deficits in their foreign exchange accounts. Estimation showed that about 50% of the total "foreign-funded ventures" in the Guangdong province cannot balance their foreign exchange account in the year 1986[10]. Most of these ventures belong to the productive items such as foodstuff and electronics and also non-productive ones such as catering and hotel services.

To help the "foreign-funded ventures" to balance their foreign exchange accounts, the Chinese government has approved some special measures : (i) foreign investors are allowed to balance the foreign exchange over many projects, i.e. if they have more than one investment projects in China, they are allowed to cover the deficit by transferring the excess foreign exchange from one project to another,

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10 see Huang Zhen-rong and Tan Zhang-ming, "A study on the problems of utilization of foreign capital in Guangdong province", paper presented in the Seminar on Theories of Guangdong"s Reform and Opening, Guangzhou, September 1987.

(ii) foreign investors are allowed to use their earned Renminbi to buy other local products for exports, and (iii) ventures in some special zones are allowed to participate in the local foreign exchange trading centre.

Although these measures do in some extent release the pressure on the balance of foreign exchange, many foreign investors still complained that they have to consume a lot of energy to consider different ways in balancing the foreign exchange and therefore cannot concentrate on their production. In addition, the compensation measure (ii) mentioned above is not welcomed by foreign investors as there are many restrictions in practice. In fact, the choices of local products available are very limited because the Chinese part will export these products itself if they are very competitive in the international market. Therefore, it is fair to say that the requirement to balance income in foreign exchange, which is not expected to be abolished in the near future due to shortage of foreign exchange in China, still bother the "foreign-funded ventures". Especially, the small and medium size ventures (which are very common nowadays) are the most affected as they are very unlikely to enjoy the advantages derived in measures (i) and (ii) described above.

In case of GETDD, the problem of imbalance of foreign exchange income is not prominent in the past two years. The export earning powers of most "productive" "foreign-funded ventures" are sufficient to cover their

foreign exchange consumption. The "non-productive" investment, such as hotel and repair of cars and trucks, can balance their foreign exchange income as they are allowed to engage in the foreign exchange trading centre in Guangzhou.

(c) The requirement of export ratio

When the Chinese enterprises negotiate with the foreign investors, the consideration of the balance in foreign exchange is usually given the highest priority. Therfore, it is a very usual practice to include a term on export ratio in their contracts. This requirement, however, contradicts the interests of many foreign enterprises, especailly the multinational corporations, which are attracted by the size of the domestic market in China. Hence, if the export ratio requirement is indiscriminately administered in each contract (although it may be desirable in some cases), then the growth of absorption of foreign capital and the effectiveness of transfer of advanced technology will be somewhat hindered.

In GETDD, however, the requirement of export ratio is not as strict as other opening zones in order to attract more advanced technology. For instance, the Guangzhou Metal Container Co. Ltd. (which is considered as one of the outstanding "foreign-funded ventures" in GETDD) has an annual production of 250 million two-piece cans for internal sales and an extra 250 million lids for its exports. Under such arrangement, we can see that the loose requirement of export ratio may result an introduction of advanced technologies (although the desirability of the effects under

this arrangement is doubted).

It was learnt in the field visits that the actual figure of the export ratio is not resulted from any market research but is just an agreement based on a promise from foreign investors. However, in some cases, punishments and monitoring mechanisms to enforce this agreement are lacking and hence the export ratio cannot be ultimately maintained. Some examples were found recently in the GETDD[11]. Therefore, the requirement of export ratio, although desirable in some cases of GETDD, is very difficult to implement in the actual practice.

(d) Lack of international market information

Most of the Chinese leaders in "foreign-funded ventures" are not well-educated and also inexperienced at international business practices. During my filed visits, I was learnt that there are frequent reports of deceits on the price and qualities of the imported machineries and equipments in GETDD. Moreover, nearly all of the imports (of the raw materials) and exports (of the products) are controlled in the hands of foreign investors. In fact, this is a very common phenomenon as the Chinese participants, like the processing/assembling enterprises, are usually forbidden to set up branches in foreign countries. In my field visits to the GETDD and Dongguan, it was repeatedly learnt that some foreign investors are suspected to

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11 see "The Decision Reference", Issue No. 9, The Intelligence Development Corporation, GETDD, 1987.

manipulate the prices of these imports and exports in order to capture more profits. In some cases, therefore, the "foreign-funded venture" itself has a loss in its account book while the foreign partner can make his own profit[12].

(e) Problem of indemnification of foreign loans

To accelerate the absorption of foreign capital, most local governments and enterprises often undertake the role of an indemnifier (which, instead, should be the responsibility of foreign investors) in borrowing capital from foreign commercial banks. This practice is, of course, very appealing to foreign investors as they need only to supply a small proportion of money when committing in the projects. However, the total indemnified amount has accumulated to a dangerous level. By the end of September 1986, the amount indemnified in "foreign-funded ventures" was estimated to be more than 80% of the total indemnified amount in Guangdong province. In GETDD, the actual figure has not been released. However, it is conjectured that the Administrative Office of GETDD may have some involvement in the indemnification of foreign loans because it is the major local participant in establishing the "foreign-funded ventures". If the financial conditions of these ventures worsen or if their incomes in foreign exchange cannot balance, then the Chinese participants will have to assume the whole risk. In fact, because of this practice of the

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12 see "The Decision Reference", Issue No. 9, The Intelligence Development Corporation, GETDD, 1987.

Chinese part, the foreign direct investment becomes somewhat like external loans, which are heavy burdens to local development if the situation is no longer improved.

(f) Imperfect legislation and the problem of enforcement of laws and favourable measures

Although the Chinese government has emphasized the legislation efforts since 1979, its achievements still lag behind the actual requirement. For example, the contractual joint ventures, which have been the most common form among all "foreign-funded ventures" since 1979, have not been protected by law for more than eight years[13]. Also, the status of private participation in the absorption of foreign capital is still not regonized by law even though it has existed for at least two years (it exist for about four years in Dongguan). In fact, this imperfect legislation allows a large room for local cadre's manipulation and thus may encourage corruption in the due course.

On the other hand, there is problem in the enforcement of favourable measures and laws. In a special seminar, it was reflected by the foreign investors that the autonomous right of "foreign-funded ventures" is sometimes not observed in actual practice[14]. The Chinese partner is usually found to affiliate with the administrative

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13 a draft of regulations on the contractual joint ventures is submitted for discussion in the First Meeting of the Seventh People's Congress in March 1988. The final version is expected to be announced in this year, see Wen Wei Po, April 1, 1988, p.2.

14 see Wen Wei Po, February 16, 1988, p.24.

department, which have a strong influence in the daily production process of the venture. Therefore, the efficiency of these enterprises is greatly affected when they always receive instructions from their boss. In fact, the efficiency is found to be exceptionally low if the Chinese partner belongs to other provinces or the central government. Some of these examples are also found in GETDD, in which these ventures are claimed to enjoy more autonomy. Moreover, the supply of raw materials or other utilities is usually charged with a higher price, although it is clearly prohibited in the current legislation. In fact, complaints about overcharges by the public utilities and other administrative departments are frequently heard. Doubtlessly, these complaints will have strong negative effects on the further utilization of foreign capital in China.

(g) Problem in enforcing the contract

During the short history of introduction of "foreign-funded ventures", there have already been many troubles in the enforcement of the contract. First, the Chinese partner is often charged for disregarding the items listed in the contracts. The foreign investors are sometimes frightened by many unreasonable amendments in the due course[15]. Second, disputes are often learnt when both parties in the joint ventures or contractual joint ventures have to check against the actual amount of their capital

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15 see Wen Wei Po, February 16, 1988, p.24.

inputs. Foreign investors complain the Chinese partner for overvaluing their contributions without producing any receipt or evidence[16]. On the other hand, the Chinese managers charge some foreign investors to manipulate the price of the imported machineries and other equipments by taking advantages of their own companies or other subsidiaries[17]. All these mentioned problems have partly explained the low turn-out rate of the total pledged foreign capital.

(h) Labour employment and internal management

It is well-known that the Chinese institutions have strict restrictions on labour mobility. Indeed, high-quality labours (such as engineers, technicians and skilful labours), who have a strong affiliation to their original enterprises, can only be employed if the "foreign-funded ventures" offer a large sume of money (about a few thousand to thirty thousand Renminbi) to the original enterprises[18]. As GETDD has only a short history, the lack of high quality labour (due to insufficient labour mobility in the neighbourhood) is more prominent. From the Labour Management Office of GETDD, it was learnt that the ventures in GETDD find difficulties in employing high quality labours although they can afford a higher wage.Such hindrances in labour mobility decrease the effectiveness of technology transfer

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16 see Wen Wei Po, Hong Kong, January 19, 1988, p.24.

17 These complaints are heard in both Dongguan and GETDD during my field visit in 1987 and 1988.

18 see Hong Kong Economic Journal, February 6, 1988, p.7.

by "foreign-funded ventures", especially those in the newly-established zones such as GETDD.

Occasionally, chaos in internal management are reported in the "foreign-funded ventures". The backward institution in China is complained to bring in many "feudal" elements to these ventures. According to some foreign investors in GETDD, local cadres sometimes abuse their powers in the normal operation and also generate unnecessary employments for their relatives. Corruption are frequently learnt from newspapers and publications although it is not known in my study. Moreover, the ideology factor of the Chinese partners affects the internal cooperation of these ventures, especially those in the inland provinces. The "anti-capitalist" spirit in effect creates many unavoidable disputes in their internal management[19]. These problems and disputes will certainly decrease the chances to make profits and hence greatly reduce the benefits derived from income generation.

(i) Lack of advanced technology

Among all "foreign-funded ventures", the most common nature is labour-intensive production with small and medium scales. By the end of September 1987, just a total of 205 approved enterprises (about 2.4% of the total approved ones) in the whole country were classified as

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19 see Ye Zhi-qiu, "The difficulties of Hong Kong investors in China", Hong Kong Economic Journal Monthly, Vol.135, June 1988, p.36.

technologically advanced ones[20]. In GETDD, as told by the local officials, the percentage of advanced technology in "foreign-funded ventures" is not high (the actual figure was not reported) although the District was established mainly for introduction of advanced ones. This low percentage of advanced technology in "foreign-funded ventures" in GETDD and also in the whole nation is probably related to the following reasons :

1) Foreign investors are uncertain of the continunity of current policies, especially after Deng's death. The introduction of advanced technology needs a long time to recover the cost and hence is very risky to the foreign capital.

2) The patent law, although promulgated in recent year, is suspected to be inefficient in its enforcement. The lack of confidence of foreign investors in the Chinese efforts to protect their patents is of course hinders the introduction of advanced technology.

3) Foreign investors mainly interest in sharing the Chinese market, where consumers cannot afford to absorb products with advanced technology due to their low income level. In my field work in Dongguan, for example, a number of processing/assembling enterprises have been converted into

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20 see Luo Wen-bin, "A brief discussion on the technology development in the three types of foreign-funded ventures", paper presented in the Seminar on the Theories of Guangdong's Reform and Opening, Guangzhou, September 1987.

"foreign-funded ventures" without altering the employed technology. Hence, the foreign investors are allowed to share the domestic market with their outdated and somewhat obsolete technologies.

4) The attitudes of the capitalist world towards the communist countries are hindrances to the introduction of very advanced technology because these technologies are strictly restricted to export to China by the multilateral agreement of the Western Powers.

5) There is asymmetric information about the imported technology which places the foreign investors in a stronger bargaining position. The inexperienced (or somewhat innocent) Chinese partners have a poor discriminating power and often introduce secondary or fast-obsolete technology even though they want to absorb the advanced ones.

(j) Effectiveness of technology transfer

Although the transfer of appropriate technology to China is an important content in the new opening policy, its effectiveness through "foreign-funded ventures" is somewhat questionable. In Guangdong province, for example, Chinese leaders have also questioned the effectiveness of technology transfer through foreign investment, and they have estimated that the absorption and innovation rate of all the imported technologies was only about 1%-3% [21] in 1987 (though the

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21 see Wang De-ye, Yang Xian-wen, Deng Nong-gan, "The reveal of practice : A basic analysis and suggested solution to the utilization of foreign capital in Guangdong", paper presented in the Seminar on the Theories of Guangdong's Reform and Opening, Guangzhou, September 1987.

definition and calculation of the said rate was not explained). This seemingly ineffective transfer of technology may be accounted by the following factors :

1) a large proportion of the working force in these ventures (no exception in the studied ones in GETDD and Dongguan) is of low qualities and are well-known for their detrimental effects on absorption of new experience and utilization of advanced technology.

2) The "foreign-funded ventures" have not paid enough efforts on research and development. As found in my studies in Dongguan and GETDD, they either have not set up a special branch or just use very little effort for their research and development work. In fact, it is a heavy burden for them to use a lot of money in technology development because most of their scales are small to medium size.

3) Both parties of the ventures are not enthusastic towards technology development and thus affect the effectiveness in technology transfer. On one hand, the Chinese cadres emphasize on exhausting all short-term economic return rather than long-term technology developments and innovations. On the other hand, the foreign party lacks of any economic incentive to transfer the technology successfully as they only utilize the cheap labour force to perform the simple and tedious work. Some foreign investors even do not pay any attention to the normal production of the venture since they can already make profits by controlling the channels in imports of raw materials and

exports of the products[22]. Moreover, it is always found that the foreign investors reserve the most important component of the imported technology (the key element or the core technology) within the "mother" company because they are afraid that the development of the "foreign-funded ventures" will ultimately threaten their share in the foreign market.

4) The great efforts to improve the investment environment create a large demand on capital inputs by the local government. For example, as discussed in the case of GETDD, the construction of infrastructures and the installation of public utilities have imposed a heavy financial burden to the local Administrative Office. Therefore, the "foreign-funded ventures" are required to make every effort to exhaust all short-term profit-making opportunities in order to relax the financial burden. The emphasis of short-term profits (partly due to lack of funds for improving the investment environment by local government) in many coastal regions hence results in an negligence of technology development and transfer.

5.4 Some Proposals for Tackling The Problems In Utilization of Foreign Capital in the Processing/Assembling Business and the "Foreign-funded Ventures"

The problems discussed in Sections 5.2 and 5.3 have already been known for some time. In fact, many

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22 see Luo Wen-bin, "A brief discussion on the technology development in the three types of foreign-funded ventures", paper presented in the Seminar on the Theories of Guangdong's Reform and Opening, Guangzhou, September 1987.

economists and other specialists have proposed a number of solutions to these problems. The following paragraphs just present a brief summary of some worth-mentioned ones :

(1) Foreign investors are proposed to enjoy an autonomy in managing the processing/assembling enterprises and the "foreign-funded ventures". Pioneering examples are found this year in some processing/assembling enterprises in Dongguan and a "foreign-funded venture in Shanghai. The current version of this solution is that the foreign investors are entitled to enjoy the sole power in the internal management of these enterprises, including employment policy, production plannings, etc, if they are willing to meet certain targets (e.g. amount of profits earned) specified by the authorities. Apparently, this suggestion will improve the productivity of these enterprises. However, whether advanced management experience can be successfully transplanted is still uncertain and hence can only be assessed after one or two years' operation.

(2) Legislation efforts should be reinforced to protect many new but welcome economic phenomenon. For instance, private participations in the utilization of foreign capital should be given the rights and treatments as other collective enterprises. Such suggestion will encourage more competition between the enterprises and therefore result an increase in their productivities. Moreover, the protection of the imported technology by foreign investors also needs to be reinforced because the patent right of the technology is

often not respected by local enterprises. If sufficient protection cannot be guaranteed, then any hope of importing very advanced technology by the foreign investment will be vapourized.

(3) It is impossible for most enterprises to improve the labour qualities just by providing on-the-job training within the enterprise. Therefore, the local governments, particularly those in the opening zones, should try their efforts to provide more education and other technical trainings for upgrading the labour qualities. In fact, the city government of Dongguan is aware of the importance of human capital and hence have already spent 104.8 million Renminbi in the period 1980-86 to develop the fundamental, technical, and also adult education in Dongguan. Although the outcome of these expenses may not be marked (as seen in my study), the efforts to upgrade the labour qualities do deserve appreciation.

Also, the local government should emphasize itself more on the role of a supervisor to local enterprises. It is suggested to provide detail statistics and information about the international markets for the innocent or inexperienced local cadres when they require. Moreover, information centres to assist the technology transfer are proposed to be established by the local government as soon as possible.

(4) For processing/assembling business, it is suggested that their processing fees should be exchanged at a rate higher than the official one. This subsidy is important to maintain

the morale of these enterprises as it is the most direct way to raise their profit margin to a more reasonable value. In fact, the provision of subsidy in Dongguan is the main factor for its great contrast to the downfall of processing/ assembling activities in Foshan. Moreover, processing/ assembling enterprises should be allowed to enter the foreign exchange trading centre (like Dongguan) for capturing more profit and hence increase their internal accumulation, if they have excess foreign exchange in their reserves.

(5) To solve the unbalance in the income in foreign exchange, it is important to provide a market for enterprises with excess foreign exchange meeting that in shortage. The establishment of the foreign exchange trading centre is, hence, thought to be the good solution (although there may be a danger of immizerisation due to internal sales, as price distortion is very common in China). Moreover, it is also suggested that the trading centre, unlike some current examples, should be open to all enterprises and individuals in order to reflect more accurately the "true" value of the foreign exchange.

(6) It is essential to facilitate labour mobility if we want to increase the productivity of the "foreign-funded ventures". The old strong affiliation of employees to their original enterprises should be weakened. Also, the setting up of labour-matching centres are suggested to facilitate the labour interflows between these ventures.

(7) To relax the financial burden imposed in the

establishment of "foreign-funded ventures", the old policy is suggested to revise : the practice of founding new plants or new sites in each equity joint venture (or contractual joint venture) is now revised to the emphasis in a fully utilization of the old and established ones[23]. In view of this, the over emphasis of many establishments of new sites and plants in GETDD should need more reservation.

(8) To resolve the conflicts between both parties and settle disputes during the enforcement of contract in the "foreign-funded ventures", it is proposed that an independent arbitration centre is set up, aiming to provide specific channels for the complaints of foreign investors. One pioneering example, by which the "foreign-funded ventures" in GETDD are also benefited, will be established in Guangdong province in late 1988[24].

(9) To encourage more small and medium size investment, it is essential to simplify all the application procedures. The prevailing suggestion is to follow the example in Dongguan, i.e. setting up a special office with representation from all involved parties.

(10) Measures to guarantee a full respect of the autonomous rights in the "foreign-funded ventures" are essential to their normal operations. It is suggested that more legislation efforts are taken to prevent the direct interferences from administrative departments. Moreover, an

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23 see Wen Wei Po, January 28, 1988, p.36.

24 see Ming Pao Daily, March 10, 1988, p.15.

economic mechanism is introduced for allowing the "foreign-funded ventures" to enjoy more autonomous rights. Under this arrangement, the ventures will be suggested to undertake a centain amount of profit in exchange of the cut off the direct influence from these administrative departments.

(11) To encourage the introduction of advanced technology, economic incentives are necessary. In GETDD, for example, a fund for technology development is suggested to be established in the coming year[25]. This fund is expected to provide loans at preferential rates (sometimes even interest free) for the enterprises which employ advanced technology in their production. Meanwhile, the fund is suggested to provide direct subsidies (such as free of charge in using the public utilities) for the advanced enterprises which are in short-term financial difficulties.

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25 see Hong Kong Economic Times, May 18, 1988, p.8.

Chapter VI

Conclusion

As a typical developing country, the factors of production such as capital, technology and high quality labours in China are short of supply for its new economic development. To overcome these shortages, utilization of foreign capital is given a high priority. Although recent statistics have revealed that the amount of external loans constitutes most of the total utilized foreign capital, the further utilization of loans will be seriously restricted by China's foreign exchange constraint. Hence, the impacts of direct investment are more noteworthy in the consideration of China's long-term development process.

Direct foreign investment in China takes the form of processing/assembling business, compensation trade, co-operative development and the "three types of foreign-funded ventures" (i.e. equity joint venture, contractual joint venture and wholly foreign-owned venture). The most prominent forms among these are processing/assembling business and the "three types of foreign-funded ventures". From the national statistics, the total foreign investment dropped significantly after reaching the peak in 1984 and then rose again from late 1986 (Section 2.1). Even though a number of preferential treatments have been announced subsequently, the total pledged amount in "foreign-funded

ventures" after 1986 only rose up steadily and still significantly less than the peak in 1984. Moreover, the figures in the processing/assembling business (represented by that in Guangdong province) indicate unexpectedly a drastic decline after 1985. As the characteristics in the processing/assembling businessss and the "foreign-funded ventures" are distinct and also the problems associated with their utilization are somewhat different, these two forms are then considered seperately in the previous chapters.

The outstanding performances of Dongguan is used as an example to throw light on the processing/assembling business of China, although experiences from other places will be considered when necessary. In Dongguan, the processing/assembling enterprises are seen to have significant and direct effects on: (i) employment generation (ii) introduction of machineries and equipments to provide an industrial basis for local enterprises, (iii) relaxation of capital constraint for infrastructure and agricultural inputs, and (iv) growth in personal income and foreign reserves. These effects, which have a great contribution to the recent economic prosperity in Dongguan, are indeed believed to be observed in the processing/assembling business in other places.

Technology transfer is one of the main focus in the direct impacts of direct foreign investment. However, its effectiveness, especially in the introduction of advanced technology, is usually questioned in the current practices of the processing/assembling business (although

there are some successful cases reported by the official propaganda). In Dongguan, for example, the transplantation of foreign technology is found to be limited in my study, although the introduction of machnineries and equipments in the processing/assembling business are noteworthy in providing the industrial basis. The main factors, which are revealed in the survey and believed to have detrimental effects in the technology transfer, include the followings : (i) low qualities of labour and managerial staff, (ii) lack of research and development efforts, (iii) insufficient accumulation of capital to purchase advanced technologies, (iv) low profit margin, and (v) over-reliance on foreign investors (Section 3.4 and Section 5.2).

Indirect impacts or linked effects in the processing/assembling business are also examined in the study although they are difficult to be assessed in reality. In case of Dongguan, the indirect employment generation and the supply of capital in agriculture from some of the earned processing fees are clearly related to the booming processing/assembling business. These indirect effects are particularly prominent in the study with regards to the special situations in Dongguan, although they are believed to vary differently in different places. Moreover, as foreign investors in the processing/assembling activities have to import raw materials for their production and also are responsible for the sales of these outputs, both forward and backward linkage effects are very limited. However, in the Dongguan's experience, the processing/assembling

business have promoted local prosperities in the sectors of catering services, retail business and construction industry. These effects, of course, are not necessarily found in other places, although they are well-known in many rapidly developing zones.

Although there are exceptions, the daily operations of processing/assembling business exclude foreign participation in their internal management. However, foreigners may sometimes invited to give a hand in managing the production process. Thus, the demonstrating effects are observed when they act as examples for local workers to follow. The transfer effects, on the other hand, are very limited because, as seen in the study, the mobility of managerial staff or technician is indeed very low.

The impacts of the "foreign-funded ventures" are discussed with the limited experiences in the Guangzhou Economic and Technological Development District (GETDD), which aimed at introduction of advanced technology during its establishment. As this part of the study suffers from the short history of GETDD and unconcerned response of its Administrative Office, the discussion is supplemented by experiences from Dongguan and other studies when necessary.

Like processing/assembling business, the direct impacts of the "foreign-funded ventures" in GETDD can be included in the similar categories : (i) employment generation, (ii) introduction of machineries and equipments, (iii) income generation and (iv) technology transfer. However, the contents of these impacts are somewhat

different from those in processing/assembling business as they themselves are characterized by different features. For instance, the employment generation in most of these "foreign-funded ventures" is small as (a) some are comparatively small in size, (b) some employ comparatively advanced technology to substitute labour and (c) some are in preparation stage. Of course, this phenomenon may not be typical as there exist a number of other "foreign-funded ventures" (such as those surveyed in Dongguan) generating a significant employment effect. In fact, the cheap and abundant labour are still the comparative advantages treasured by foreign investors in these ventures. Moreover, unlike processing/assembling activities, their impacts on export earnings and also accumulation of foreign exchange are limited in the whole nation, although some results in the GETDD present a rather different picture. While some in GETDD are able to make profits and balance their income in foreign exchanges, most ventures in China cannot make a profit and also have a serious balancing problem in their foreign exchange income.

The introduction of new technologies, particularly those with advanced elements embodied, by these ventures are noteworthy in GETDD and also in the whole nation. The strategy of "exchange technology for market", accompanying the emphasis in improvements of investment environment in the past few years, has pushed more introduction of rather up-dated technologies in their production process. However, the effectiveness of technology transfer is questionable as

the absorption, innovation and also diffusion rate of these technologies are found far below satisfaction. Moreover, the labour productivity of processing/assembling business in Dongguan appears to be as high as that of "foreign-funded ventures" in GETDD. In Dongguan, the labour productivity is estimated by the amount of processing fees earned by each worker, i.e. U.S.$ 629.4 (equals to RMB 4406 in the average black market rate, U.S.$ 1.0 = RMB 7). For GETDD, the available figure is the net industrial output per worker in the first nine months of 1987 (RMB 8605). If we annualize this figure and the direct value-added content is assumed to be 40%, we obtain the labour productivity of GETDD in 1987 as RMB 4598. Therefore, the labour productivity in both regions are seen to be very similar, which reveals that GETDD, although primarily aimed at absorption of advanced ones, fails to employ more sophisticated technology in the past years.

From my investigations, the ineffectivenss of technology transfer (particularly for advanced technology) in these ventures can be related to the following factors: (1) low qualities of labours, technicians and managerial staffs, (2) undevoted research and development efforts, (3) half-hearted commitment of foreign investors, (4) lack of economic incentives for encouragement, (5) over-reliance on Hong Kong investors and (6) the emphasis of the Chinese participants at exhausting their short-term opportunities (Section 4.3 and Section 5.3).

The opening of domestic market of China to the

"foreign-funded ventures" not only attract more investors but also generate forward linkages in the local economy. Development in the commercial and service sectors are promoted as the internal sales create widespread economic connections between the venture and the distributors, agents or retail firms. These connections can in turn generate a further employment and growth in income for the local economy. While the forward linkages are impressive, there may be a danger of immizerising investment when the domestic markets are open. However, the Chinese leaders have not taken enough awareness to this danger and hence are expected to rely much on the "exchange technology by market" strategy in the future absorption of foreign technologies.

Backward linkages are limited because the ventures themselves usually emphasize at employing the imported raw materials (which are suspected to be one of the main sources in the total profits earned by foreign investors). However, in some ventures, particularly those in the foodstuff industry which make use of the rich hinterland in the Pearl River Delta, backward linkages may exist between the venture and the local suppliers. The backward linkages, like the forward ones, have indirect impacts on generating both employment and income for the local economy.

Through cooperation and participation in these venutres, the Chinese participants have chances to expose themselves to modern management and international business practice. This indirect impact is worthwhile to local

development as these experiences may be transferred to other enterprises. Moreover, the demonstration effects of thes ventures are noticeable. The values, attitudes and also procedures upheld in the "foreign-funded ventures" may influence the neighbouring Chinese ventures. The demonstrating effects, if sucessfully transferred, will indeed have far-reaching influences in the Chinese economic development.

Although the processing/assembling business and the "foreign-funded ventures" have many significant impacts in the past few years, they both face many difficulties and problems during their current practices and also in their future utilization (Section 5.2 and Section 5.3). While some problems can be solved in a short time, a number of these problems are unlikely to have good or acceptable solutions in the foreseeable future. Therefore, it is not sensible to have an over-optimistic picture in their future development by now.

The role of direct foreign investment, particularly those in the processing/assembling business and the "foreign-funded ventures", in the Chinese new economic take-off are in no doubt very essential. Most of their significant impacts are direct and immediate. In the past years, they have successfully fulfilled the short-term goals of the new open-door policy since 1978, namely, reduction of unemployment, growth of personal income and foreign exchange, relaxation of capital constraint, and introduction of machineries and equipments. These direct impacts indeed

provide a good start for the Chinese new economic take-off.

Both "foreign-funded ventures" and processing/ assembling enterprises, however, are not very effective in their technology transfer by now. The lack of some long-term effects by the foreign direct investment is the main defect in their records. Moreover, they are rather isolated from the Chinese economy in the past few years. Their contributions will be more far-reaching if such isolation can be broken.

The future development of direct foreign investment depends on many political and economic factors in both the world and China. Although many significant efforts are tried by the government, their development may be optimistic only if all the problems (at least most) outlined in Section 5.2 and Section 5.3 can be tackled. So far, the pace of changes in China is unexpectedly great. It is unlikely to reverse the trend of opening and reform in future. However, the qualities of foreign capital and also the abilities of the Chinese enterprises to absorb and innovate the foreign technology are still doubted in the foreseeable future. Therefore, the role of the direct foreign investment in future cannot be easily assessed beforehand. In fact, in coping with the fast-moving changes in China, the meaningful and somewhat fruitful thing to do is to conduct another similar investigations in every two or three years.

Appendix A

Questionnaire Used in Conducting Research on Processing/ Assembling Business in Dongguan

(A) General Information :

1. Name of Enterprise : _____
2. Major products : _____
3. Date of Establishment : _____
   Duration of Contract : _____
4. Do you contact the foreign businessmen directly ?
   a) yes b) no
   If no, which department helps you ? _____
5. Total output value in the last year was : _____
6. The processing fees received in the last year was : _____
   The amount of foreign exchange in these fees was : _____
7. In your production process, the machineries/equipments used are :
   a) bought back b) borrowed
   c) other (please specify) _____
8. Does your foreign partner have investment on processing/ assembling business in other places in China ?
   a) yes b) no
   If yes, where is it ? _____
   and what is the item ? _____
9. Where does your foreign partner come from ? _____
   The major business of the foreign partner in his own country is : _____

(B) Labour management :

1. The number of employees in the last year is : _____
   Among them, the number of
   a) managerial staff/senior executive is : _____
   b) technician/skilful worker is : _____
   c) common worker/employee is : _____
2. The education level of managerial staff/senior executive is : a) university _____ % b) senior high school _____ %
   c) junior high school _____ %
   The education level of technicians/skilful workers is
   a) university _____ % b) senior high school _____ %
   c) junior high school _____ %
3. The average salary of each employee in the last year is : _____
   Of which, the average salary of each
   a) managerial staff/senior executive is : _____
   b) technician/skilful worker is : _____
   c) common worker/employee is : _____

4. Does your enterprise provide any trainings to your employees ?
   a) yes b) no
   If yes, the contents of these trainings are : _____
   and the number trained in the last year was : _____
   Among them, the number trained in the rank of
   a) managerial staff/senior executive was : _____
   b) technician/skilful worker was : _____
   c) common worker/employee was : _____
5. Last year, the number of employees leaving the enterprise was : _____
   i) of which, the number of
      a) managerial staff/senior executive was : _____
      b) technician/skilful worker was : _____
      c) common worker/employee was : _____
   ii) Where do these people go after they quit their employment ?
      a) retire _____ % b) state-owned enterprise _____ %
      c) other "foreign-funded ventures" _____ %
      d) individual business _____ %
      e) others (please specify) _____
6. Among all your employees, the proportion of migrant workers is _____ %

(C) Technology Level :

1. The technology level employed in the production process of your enterprise is :
   a) late eighties b) early eighties c) late seventies
   d) early seventies e) sixties f) before sixties
2. Of all the machineries/equipments employed in the production process, how many are imported from foreign countries ? _____
   Which country is the main importer ? _____
3. Of all the raw materials employed in the production process, how many are imported from foreign countries ?
   _____
   Which country is the main importer ? _____
4. The main channels through which the existing production technolgies are obtained are :
   a) the Chinese enterprises themselves
   b) the Chinese scientific research institution
   c) foreign investors
   d) Sino-foreign joint research
   e) other (please specify) _____

(D) Miscellaneous :

1. Do you intend to renew the contracts with the foreign investors after they expire ?
   a) yes b) no c) uncertain
   If yes, the reasons are : _____
   _____
   If no, the reasons are : _____
   _____

2. Assuming the contract will soon expire, do you face any of the following problems if you intend to sustain the production solely by yourself ?
   a) inputs of a large sum of capital to maintain the proper lifes of the imported machineries/equipments
   b) lack of foreign exchange to purchase the spare parts and components of the imported machineries/equipments
   c) lack of sales channels
   d) lack of foreign exchange to purchase raw materials
   e) imbalance of income in foreign exchange
   f) others (please specify) _____
3. Why do the foreign businessmen choose this place for their investment ? (If possible, please use 1,2,3.... to rank their importances)
   a) simple administrative procedures
   b) preferential treatments on taxation and other administrative cost
   c) cheap rent and labour cost
   d) the technology level of labours satisfy the requirements
   e) the infrastructures and other supporting facilities are satisfactory
   f) familiarity with local people
   g) others (please specify) _____
4. In the last year, the problems faced by the enterprise in the area of
   a) production process are : _____
   _____
   b) taxation are : _____
   _____
   c) labour management are : _____
   _____
   d) others (please specify) : _____
   _____

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Appendix B

Questionnaire Used in Conducting Research on the Three Types of "Foreign-funded Ventures" in GETDD and Dongguan

(A) General Information :

1. Name of Enterprise : _____
2. Major products : _____
   The products belong to :
   a) semi-finished products b) finished products
   c) other (please specify) _____
3. Date of signing contract : _____
   Date of Establishment : _____
4. (i) How many times does the foreign investment divide ?
   _____
   (ii) In what form does the foreign businessmen invest ? (if there is no exact figure, please use 1,2,3,..... to rank their importances)
   a) machinery/equipment _____ % b) raw material _____ %
   c) technology _____ % d) rent _____ %
   e) other (please specify) _____
   (iii) How long do they expect to earn back the investment cost ? _____
5. Total output value in the last year was : _____
6. Total sales in the last year is : _____
   Of which, the percentage of exports is : _____
   and the major export markets are : _____
   _____
7. Foreign exchange earened in the last year is : _____
8. Foreign exchange used in the last year is : _____
9. Foreign exchange remitted by foreign investors in the last year is : _____
10. The major business of foreign investment in their own country is : _____

(B) Labour management :

1. The number of employees in the last year is : _____
   Among them, the number of
   a) managerial staff/senior executive is : _____
   b) technician/skilful worker is : _____
   c) common worker/employee is : _____
2. The education level of managerial staff/senior executive is : a) university _____ % b) senior high school _____ %
   c) junior high school _____ %
   The education level of technicians/skilful workers is
   a) university _____ % b) senior high school _____ %
   c) junior high school _____ %

3. The average salary of each employee in the last year is : _____
   Of which, the average salary of each
   a) managerial staff/senior executive is : _____
   b) technician/skilful worker is : _____
   c) common worker/employee is : _____
4. Does your enterprise provide any trainings to your employees ?
   a) yes b) no
   If yes, the contents of these trainings are : _____
   and the number trained in the last year was : _____
   Among them, the number trained in the rank of
   a) managerial staff/senior executive was : _____
   b) technician/skilful worker was : _____
   c) common worker/employee was : _____
5. Last year, the number of employees leaving the enterprise was : _____
   i) of which, the number of
      a) managerial staff/senior executive was : _____
      b) technician/skilful worker was : _____
      c) common worker/employee was : _____
   ii) Where do these people go after they quit their employment ?
      a) retire _____ % b) state-owned enterprise _____ %
      c) other "foreign-funded ventures" _____ %
      d) individual business _____ %
      e) others (please specify) _____

(C) Technology Level :

1. The technology level employed in the production process of your enterprise is :
   a) late eighties b) early eighties c) late seventies
   d) early seventies e) sixties f) before sixties
2. Of all the machineries/equipments employed in the production process, how many are imported from foreign countries ? _____
   Which country is the main importer ? _____
3. Of all the raw materials employed in the production process, how many are imported from foreign countries ? _____
   Which country is the main importer ? _____
4. Does your enterprise undertake Research and Development (R & D) ?
   a) yes b) no
   If yes, the amount spent on R & D in the last year was : _____ and the number of specialized personnel employed for R & D was _____ .
   The types of R & D activities include :
   a) new product design
   b) new production process design
   c) new machineries/equipments and raw materials for production
   d) adaptations and modifications of foreign technology
   e) other (please specify) _____

5. The main channels through which the existing production technolgies are obtained are :
   a) the Chinese enterprises themselves
   b) the Chinese scientific research institution
   c) foreign investors
   d) Sino-foreign joint research
   e) other (please specify) _____

(D) Sales :

1. The export channels are mainly in the hands of
   a) foreign investors
   b) both foreign and Chinese participants of the venture
   c) the Chinese foreign trade departments
   d) other (please specify) _____
2. Does your enterprise establish coordination departments (or points) for exports in the foreign countries ?
   a) yes b) no
   If no, how can you obtain foreign market information ?
   _____
3. Do your products bear brandnames in the international market ? a) yes b) no
4. If part of your products are sold in the domestic market which of the following channels do your enterprise make use of ?
   a) a special branch established within the enterprise
   b) local commercial business
   c) commercial departments from other provinces or cities
   d) individual business
   e) other (please specify) _____
5. The Renminbi earned in internal sales are used (if no exact figure, please use 1,2,3..... to rank their importancces) :
   a) to pay for wages _____ %
   b) to pay for rents, fees of utilities, and other administrative cost _____ %
   c) to pay for taxes _____ %
   d) to exchange foreign currency _____ %
   e) other (please specify) _____
6. Does your enterprise have a special branch for marketing and promotion of your products ?
   a) yes b) no
7. Does your enterprise undertake research on marketing strategy ?
   a) yes b) no
   If yes, it is mainly for
   a) domestic market b) international market

(E) Miscellaneous :

1. Why do the foreign businessmen choose this place for their investment ? (If possible, please use 1,2,3.... to rank their importances)
   a) simple administrative procedures
   b) preferential treatments on taxation and other administrative cost
   c) cheap rent and labour cost
   d) the technology level of labours satisfy the requirements
   e) the infrastructures and other supporting facilities are satisfactory
   f) internal sales are allowed
   g) familiarity with local people
   h) others (please specify) _____
2. Last year, the sources of foreign exchange income in your enterprise are (if no exact figure, please rank the important three) :
   a) exports _____ %
   b) internal sales (paid in foreign exchange) _____ %
   c) foreign exchange trading centre _____ %
   d) other (please specify) _____
3. The foreign exchange earned per unit export product in the last year was : _____
4. Did your enterprise participate in foreign exchange trading centre last year ?
   a) yes b) no
   If yes, the average price was : _____
5. Last year, the foreign exchange income of foreign investors are from (if no exact figure, please rank the important three) :
   a) profits of enterprises _____ %
   b) machinery/equipment costs of foreign investors _____%
   c) the technology cost of foreign investors _____ %
   d) the raw material cost of foreign investors _____ %
   e) other (please specify) _____
6. The foreign exchange incomes of foreign investors are used for (if no exact figure, please rank the important three) :
   a) remittance _____ %
   b) reinvestment within the enterprise _____ %
   c) reinvestment in other enterprise or provinces _____ %
   d) other (please specify) _____
7. In the last year, the problems faced by the enterprise in the area of
   a) production process are : _____
   _____
   b) taxation are : _____
   _____
   c) labour management are : _____
   _____
   d) others (please specify) : _____
   _____

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